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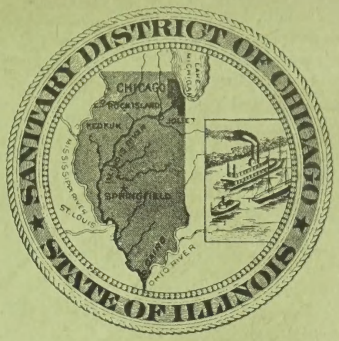
ANNUAL MESSAGES OF PRESIDENTS ECKHART AND KELLY



Sanitary District of Chicago

AND

ANNUAL REPORTS
OF
CLERK
TREASURER
CHIEF ENGINEER
ATTORNEY
AND
MARSHAL

YEAR
ENDING
DECEMBER 31
1896

Edmund J. Lynch.

ANNUAL MESSAGES

OF

PRESIDENTS ECKHART AND KELLY

AND

Annual Reports of Clerk, Treasurer, Chief Engineer, Attorney and Marshal

OF THE

SANITARY DISTRICT OF CHICAGO

FOR THE

YEAR ENDING DECEMBER 31, 1896.

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1896

BOARD OF TRUSTEES—1897.

WILLIAM BOLDENWECK,	*1376 N. Clark Street*
JOSEPH C. BRADEN,	*159 La Salle Street*
ZINA R. CARTER,	*225 W. Sixteenth Street*
BERNARD A. ECKHART,	*66 N. Canal Street*
ALEXANDER J. JONES,	*416 Roanoke Building*
THOMAS KELLY,	*412 N. Y. Life Building*
JAMES P. MALLETTE,	*409 Rookery Building*
THOMAS A. SMYTH,	*803 Jackson Boulevard*
FRANK WENTER,	*115 W. Fourteenth Street*

OFFICERS—1896.

BERNARD A. ECKHART,	*President of the Board*
JAMES REDDICK,	*Clerk of the District*
MELVILLE E. STONE,	*Treasurer of the District*
ISHAM RANDOLPH,	*Chief Engineer of the District*
CHARLES S. DENEEN,	*Attorney of the District*

OFFICERS—1897.

THOMAS KELLY,	*President of the Board*
JAMES REDDICK,	*Clerk of the District*
FRED M. BLOUNT,	*Treasurer of the District*
ISHAM RANDOLPH,	*Chief Engineer of the District*
WILLARD M. McEWEN,	*Attorney of the District*

OFFICES OF THE DISTRICT, RIALTO BUILDING.

COMMITTEES FOR 1896-7.

JUDICIARY.

JAMES P. MALLETTE, Chairman.

ALEXANDER J. JONES, JOSEPH C. BRADEN.

FINANCE.

FRANK WENTER, Chairman.

ZINA R. CARTER, THOMAS A. SMYTH.

ENGINEERING.

JOSEPH C. BRADEN, Chairman.

ALEXANDER J. JONES, WILLIAM BOLDENWECK, ZINA R. CARTER,

BERNARD A. ECKHART, JAMES P. MALLETTE,

THOMAS A. SMYTH, FRANK WENTER, THE PRESIDENT

FEDERAL RELATIONS.

ZINA R. CARTER, Chairman.

ALEXANDER J. JONES, WILLIAM BOLDENWECK,

BERNARD A. ECKHART, JAMES P. MALLETTE.

LABOR.

BERNARD A. ECKHART, Chairman.

WILLIAM BOLDENWECK, FRANK WENTER.

HEALTH AND PUBLIC ORDER.

WILLIAM BOLDENWECK, Chairman.

JOSEPH C. BRADEN, THOMAS A. SMYTH.

RULES.

THE PRESIDENT, Chairman.

ALEXANDER J. JONES, BERNARD A. ECKHART.

REGULAR MEETINGS.

The Board of Trustees meets every Wednesday at 1:30 o'clock P. M., except from May 1 to October 1, when the Board meets on the second and fourth Wednesdays of each month at the same hour.

The Committee on Engineering meets on Monday prior to each regular meeting of the Board, at 1:30 o'clock P. M.

The Committee on Finance meets for the approval of vouchers on Tuesday prior to each regular meeting of the Board, at 1 o'clock P. M.

ALL COMMITTEES SUBJECT TO CALL OF CHAIRMAN.

ANNUAL MESSAGE OF PRESIDENT ECKHART.

"CHICAGO, December 8, 1896.

To the Honorable, the Board of Trustees of the Sanitary District of Chicago:

GENTLEMEN — Following established custom, I take this opportunity, at the close of my official term as President of the Board, to pass in review in a summary way some of the more important features of the year's work.

In the message which I submitted to you on assuming the responsibilities of the position, I pointed out the then condition of the work and the serious nature of the problems that confronted you, the newly elected Board of Trustees.

I there stated briefly the progress that had been made up to that time in the work of excavation upon the Main Channel.

The work still before you was shown to be the finishing of the work of excavation, the building of retaining walls for such portions of the Channel as were partly in rock and partly in glacial drift, the construction of controlling works at the lower end of the Channel at Lockport, so as to regulate and control the flow of water through the Channel, the devising of plans for carrying the water through Joliet without injury to vested interests in that city, the perfecting of plans for carrying through the Chicago River the volume of water required by our statute, and, not least important, the providing of funds to meet the obligations of the District as they accrued.

It will be convenient for my purpose of giving a brief account of the work of the year, to take up these subjects in the order here named.

EXCAVATION OF THE MAIN CHANNEL.

One year ago five of the contract sections were practically completed, and during the year twelve more have been finished. Of the remainder, the work yet to be done is comparatively of little moment, with the exception of two or three sections, which have been delayed either by failure on the part of the contractors or by reason of delayed settlements for right of way, for neither of which was the District at fault.

It may be said in general terms, taking the work of excavation as a whole, from Chicago River to Lockport, that over 95 per cent is done.

During the year nearly four and one-half million cubic yards of glacial drift and over one and one-half million cubic yards of rock have been excavated.

This alone has required the payment by the District of an average of over two hundred and twenty-five thousand dollars per month.

THE RETAINING WALLS.

The year has been one of great activity in the matter of building retaining walls. These have been required upon twelve sections.

On several of the sections it amounted to little more than the filling in of the clay pockets found in the rock through which the Channel is excavated.

This circumstance, however, gave rise

to a class of claims on the part of the contractors which have been most pertinaciously urged in spite of adverse rulings by the Chief Engineer, and have been most difficult to deal with.

It was urged that the specifications insisted upon by the Engineering Department, as applied to work of limited amount in any one place, and requiring the frequent removal of materials and machinery, were not equitable in view of the low prices fixed, which were based on uniform work.

Most of these controversies were happily adjusted without additional cost to the District in the final settlements made with the contractors; to which reference will be made hereafter.

The amount of wall-building accomplished by the District during the season suitable for this kind of work is without a parallel in great engineering enterprises.

It aggregates 238,698 cubic yards. The price, too, at which it was secured was the lowest heretofore heard of for this class of work.

The expenditure for retaining walls during the year was $786,115.72, being about $3.25 per cubic yard.

The construction of this amount of wall under the specifications controlling the work required the testing of thousands of carloads of cement, and the inspection of the stone before it was laid and of the completed wall.

It is generally acknowledged that the District has secured an exceptionally good piece of work.

CONTROLLING WORKS.

The use of the valley of the Desplaines for the site of the Main Channel, after cutting across the divide at Summit, has always necessitated a consideration of flood conditions with the location and maintenance of our Channel, and the necessity of being able to regulate and control the flow of the water from the Channel into the Desplaines in periods of flood, was obvious.

Plans had already been perfected and bids invited for the construction of controlling works at the end of Section 15, and the letting of the contract for that work was one of your first duties as Trustees.

The masonry for this structure is about finished, and the greater part of the iron work has been delivered at the site of the work. It will no doubt be finished in ample time.

THE WORK THROUGH JOLIET.

From surveys made, our Engineering Department drew up alternate plans for carrying the waters of the Channel and of the Desplaines down the slope from Lockport through the City of Joliet to Joliet Lake.

The situation is one of some difficulty. The navigation of the Illinois and Michigan Canal must be preserved. Water powers and other vested interests must be cared for or disposed of. Lands must be acquired, the amount depending upon the plan finally adopted. The final determination of a plan for carrying the Channel through Joliet was one of the tasks mentioned in my inaugural message, which it was confidently expected would be accomplished during the year. The necessity, however, of applying all available resources to the payment of obligations becoming due, did not leave sufficient funds to apply to acquiring the necessary right of way.

Attention has been given to the study of the matters involved, and our engineers have prepared two alternative plans, with estimates of cost, so that you can now apply yourselves to this problem.

Four alternative solutions will be presented for your consideration, and as soon as a decision is reached, the acquiring of lands may be accomplished as rapidly as the finances of the District shall permit.

THE CHICAGO RIVER.

In my message of last December, I

dwelt at some length upon the importance of Chicago as a lake port, and of the magnitude of the commercial interests centering in and upon the Chicago River.

I pointed out the urgent necessity of immediate action on the part of the General Government in the interests of lake commerce generally, looking toward the improvement of the river in a manner commensurate with its importance, and in harmony with the avowed and adopted policy of the Government with reference to securing greater depth of water in harbors and through the channels connecting the great lakes.

I also showed the unfairness of throwing upon Chicago the burden of undertaking and carrying out improvements which were necessary and demanded in the interests of general commerce.

These views only needed statement to obtain admission of their correctness, and early in the year, through the efforts of the Mayor, the Lake Carriers' Association, the Board of Trade and public-spirited citizens, the Chicago River Improvement Association was organized for the purpose of presenting the matter to Congress, and urging upon it the importance of speedy action in the premises.

The application was well received and an appropriation was made. Great credit is due to our Representatives and Senators in Congress from this City and State for their successful effort in behalf of this improvement.

Since then the plans have been made and contracts for deepening the river and its branches west of Rush Street Bridge have been let, and the work is now under way.

Unfortunately, the present Government plans contemplate only the dredging of the river. It will to that extent, of course, be complimentary to that of the Sanitary District, but it is hoped that it may be possible to secure the application of a portion of the appropriation to widening the Channel, especially where the interests of navigation alone require it.

The work contemplated by Major Marshall in his report and recommendations was the improvement of the river for commercial purposes. This included not only deepening by dredging, but the straightening of the river at certain points, and the widening of the same where the Channel had been encroached upon in such manner as to interfere with navigation.

The necessary change in the wording of the appropriation act should be secured at the present session of Congress, so that it will permit of the improvement of the river along the lines intended by all parties at the time of making the appropriation.

No objection can be raised to this, and the work of the District ought not to begin until it is finally determined just how far the commercial improvement of the river may be supplementary to that undertaken by the District for its purposes.

The plans of the District have been completed for such improvement of the river, in addition to that undertaken by the General Government, as will secure for the Main Channel of the District the full volume of water required by the Sanitary District Act.

In spite of the unbelief expressed in some quarters and the unnecessary apprehension felt in others, there is no longer any doubt about the possibility and practicability of so improving the Chicago River that it will furnish the required supply of water, without the creation of a current which shall seriously interfere with the navigation of the river. All doubts on this point should finally be at rest.

It is thought that the active work of one season will be sufficient to accomplish the improvements contemplated. At any rate there will be no difficulty in securing its completion by the time the work necessary at Joliet shall have been completed.

With proper economy on the part of the District and wisdom in the management of its affairs, the additional resources provided by the last Legislature should be sufficient to complete both these improvements and all other necessary work to permit the introduction of the waters of the lake into and through the Channel.

WATER POWER.

I called your attention last December to the possibility of the creation incidentally of a great water power between Lockport and Lake Joliet, which is sus ceptible of development at some future time when the finances of the District will admit.

While the development of such power is a matter for the future, and we should not be justified at this time in the expenditure of any large sum of money for that purpose, still every care should be taken not to prejudice the situation, so that when the time comes and the demand for the use of such power calls it into existence, no obstacles will be in the way.

All of the water power rights which we create should be zealously preserved. It is now a demonstrated fact that electrical power can be transmitted a very long distance with but a nominal loss in transmission, and the value of the water power which we will create has been variously estimated by competent authorities to be worth from $200,000 to $750,000 per annum to the City of Chicago.

FINANCES.

In treating of the financial resources of the District in my inaugural address, the conclusion was reached that the margin of income over expenses for the year 1896 would be so small that the utmost economy would be necessary in order to meet the necessary expenditures.

In making the estimate there given, I assumed $3,500,000 as the receipts from the tax levy of 1895, and that the District would be enabled to reissue $1,000,000 of bonds.

The taxes for 1895 amounted only to $3,279,737.12, while bonds to the amount of but $800,000 were issued. Thus the receipts were over $400,000 less than I had anticipated, and were it not for the fact that work on a few of the sections has fallen behind the requirements, so that the amout earned has been diminished, the District might have found itself embarrassed to make its payments.

By reason of the lack of harmony between the theory upon which municipalities make appropriations and levy taxes for municipal purposes, and the practice under our revenue laws in the assessing of property and the collection of taxes, most municipalities find themselves compelled frequently to anticipate their tax levy.

The assessment of property for any given year is made in May; the levy and equalization by County and State Boards is not usually completed until about October. Only a very small portion of the taxes are collected until the year following.

The District could avail itself of the increased tax levy for 1895 only by issuing warrants in anticipation thereof, and transferring same to contractors in payment of their work.

Arrangements were readily made by which the banks accepted the District warrants at par, and nearly $2,700,000 of its warrants were taken by them, when, however, the banks began to feel the financial pressure which finally prevailed throughout the country, and sought to protect themselves by increasing their reserves, and refusing loans no matter how good the security was, it became most difficult for the contractors to dispose of the warrants without some small sacrifice.

The discount suffered has never been great, and there has been no indication of any lack of confidence in the security, but in effect has been a premium paid for the use of money when it was scarce.

Now that the financial condition of the country has improved, the warrants are about at par, and there is no reason why they should be disposed of at any less than par, since arrangements could be perfected with the banks for taking care of them at that figure, as formerly.

It has been a matter of gratification to me that during this serious financial depression existing in all the avenues of trade, when so many municipalities have found it difficult or impossible to float their bonds, the credit of the Sanitary District has been maintained unimpaired, and I urge it upon you as a matter of first and vital importance to the interests of the District that no action shall at any time be taken by you which shall tend to impair the confidence of the public in the financial integrity of the District.

I have had prepared and submit herewith a statement showing the aggregate of the receipts and expenditures of the District from its organization to the present time.

SETTLEMENTS WITH CONTRACTORS.

The work on twelve of the contract sections having been fully completed by the respective contractors, and final certificates therefor having been issued by the Chief Engineer, settlements have been made and the retained percentage, amounting to over $1,000,000, paid over.

In reaching these settlements all claims for extras and all claims and demands of whatsoever nature by the respective contractors against the District were waived and released.

The claims already referred to for retaining wall work and other claims which, if allowed, would have involved an additional outlay to the District of about $200,000, were all released in these settlements.

These claims, as made by the contractors, were that they should be permitted, when clearing a foundation for a retaining wall, to clear away all of the stone to the same plane for starting the wall. The ruling of the Engineer and the requirement made by him was that when a sufficient base of sound rock was found upon which to start the retaining wall that was to be considered the stratum upon which the wall was to be erected, and if some small portion thereof was defective or unsound, that portion alone should be removed to the next lower sound stratum, and that it would be a forced construction to say that where any portion of stratum of rock was unsound, the whole of it should be removed and the District be required to pay for removing solid rock and replacing it with masonry.

The completion of the work upon the retaining walls has enabled the District to dispense with the large force of inspectors which it was necessary to employ during the progress of the work.

The completion of so many contract sections and the consequent dispersion of the forces of men engaged by the contractors has enabled the District to reduce its police force, and two of the stations have already been closed. A still further reduction of the force may be accomplished in the near future.

No doubt also some reduction in the Engineering force may now be effected without impairing its efficiency. The Chief Engineer has already been instructed to review his force with reference to present needs of the department and to report what, if any, reduction therein can be made to the best interests of the District.

RAILROAD CROSSINGS.

After several months of negotiation with the officers of the Santa Fe System, in which various propositions were made on either side for the settlement of the question of the crossing of the railway company's right of way by our Channel, the Chief Engineer prepared and presented for your consideration four alternative plans. Among these was one which required shifting the line of railway in such manner as to necessitate but one crossing. The difficulty of

reaching any conclusion which should be satisfactory to both parties was found to be so great that the attempt to make radical changes in the line of the railway was abandoned, and a settlement sought on the basis of such slight changes at the approaches to contemplated bridges over the Channel as should make more direct crossings.

A settlement was finally reached satisfactory to both parties, the District being at such expense as it would have to offer to defray, were it to seek to acquire crossings by regular condemnation proceedings.

Pursuant to the agreement entered into with the railroad companies at Campbell avenue, the District has put in a span for an eight-track bridge in such manner as to allow the dredges at work on Sections N and O to pass through. This span, though now temporarily placed, will hereafter become a part of the permanent structure.

The contracts for the boulevard bridge and for that of the Elgin, Joliet and Eastern Railway have been let.

The Engineer has had a force of men for some months engaged upon the preparations of plans for bridges for all of the various crossings over our Channel, and this work has reached a fair stage of completion.

CONCLUSION.

I have thus briefly mentioned some of the more important of the numerous matters which have demanded your attention during the past year, and have touched upon some of the things remaining to be done.

In the manner of the practical work of the Board, the detail of which, as heretofore, has been carried on through committees and thus prepared for your action thereon in the regular sessions of the Board, I have thought it desirable to have complete stenographic reports made and preserved of the deliberations of the various committees. These are written up and filed with the Clerk, where they may be conveniently referred to at any time by the Trustees when necessary.

As to the work of the year, as a whole, it must be borne in mind that the District has but two sources from which it obtains means necessary to carry on its work, and there are limitations set by law upon each of these.

The one source, the issue of bonds, was exhausted early in January by the issue of eight hundred thousand dollars of bonds, by which the constitutional limit was reached.

The other source, that of direct taxation, as already explained, could not be available so far as the tax levy of 1896 was concerned, to any considerable amount, until October of this year.

To this unfavorable financial situation came the general lack of confidence and apprehension in the business world, so that it has been only by the most prudent and careful management that the District has been able to keep its work going.

New work that had been prepared for and which an abundance of means would have enabled the District to push forward, had to yield precedence to the carrying on to completion of the work already contracted for.

Moreover, the percentages retained by the District on its contracts, until the completion of the same, became due in the course of the year, and had to be provided for. The amount, as already explained, aggregated over a million dollars.

During the year the amount expended for actual construction is $1,063,187.

It has been a year of progress and accomplishment and the business of the District has made many demands upon your time and attention.

As for myself, I find that the performance of the duties devolving upon me as President of the Board have seriously encrouched upon the time which I should have given to my private affairs, and I shall gladly surrender this seat to whomsoever you shall name as my successor.

In conclusion, I wish to express my appreciation of the assistance and ready co operation of the officers and respective heads of departments in the performance of my official duties.

I can only add, in leaving this chair, in line with what was expressed by me when I assumed it, that we shall greatly mistake if we look upon our positions as Trustees in this great enterprise in any other light than as positions of trust.

We have been chosen by the people to take charge of this work. They have a right to expect, and do expect, that we shall bring to this work and preserve a singleness of aim, a sincerity of purpose and an unswerving integrity.

Mistakes of judgment may be overlooked, but if we permit personal differences to influence our actions in matters of public interest, if we allow selfish aims and ambitions to take the place of regard for the welfare of the District, if we are palpably controlled by any other motives than a sincere desire to give our best thoughts and energies to furthering the work which has been entrusted to us, we shall meet, and we ought to meet, the just condemnation and contempt of our fellow-citizens.

Respectfully submitted,

(Signed) B. A. ECKHART,
President.

RECEIPTS AND EXPENDITURES

FROM DECEMBER 1, 1895, TO DECEMBER 1, 1896.

The receipts and expenditures of the District for the year, from December 1, 1895, to December 1, 1896, were as follows:

Receipts.

Balance on hand December 1, 1895		$1,122,514 59
Engineering Department	$ 3,509 89	
Engineering Department—Construction Account	1,513 98	
Law Department	2,000 00	
Law Department—Land Account	10,000 00	
General Account	415 50	
Interest (Bank Balances)	10,444 09	
Tax Account	3,279,737 12	
*Tax Levy, 1895—warrants issued	1,719,834 46	
*Tax Levy, 1896—warrants issued	1,987,934 51	
Bond Account	800,000 00	
Bond Interest and Premium Account	12,296 35	
		$7,827,735 90
Total Receipts		$8,950,250 49

*Warrants with interest coupons attached.

Expenditures.

Engineering Department	$ 182,033 12
Engineering Department—Construction Account	4,063,197 10
Clerical Department	11,138 73
Treasury Department	2,028 45
Law Department	33,706 63
Law Department—Land Account	35,592 90
General Account	47,707 78
Police Department	44,313 24
Pumping Plants	31,661 43
Emergency Funds	6,000 00
Emergency Fund (advance for contractors' pay rolls)	12,500 00

Bond Account—bonds retired	$ 600,000 00	
Bond Interest and Premium Account—interest paid	556,750 00	
Tax Levy, 1895—warrants redeemed	2,701,213 77	
Tax Levy, 1895—interest paid on warrants	73,270 52	
Tax Account—refund over payment	91 00	
		$ 8,401,204 67
Balance on hand		549,045 82
Total Expenditures		$ 8,950,250 49

TOTAL RECEIPTS AND EXPENDITURES TO DECEMBER 1, 1896.

Receipts.

The total receipts of the District from date of organization to December 1, 1896, were $26,769,189.03, as follows:

Engineering Department	$ 7,304 96	
Engineering Department—Construction Account	81,555 58	
Law Department	3,790 00	
Law Department—Land Account	44,480 03	
General Account	8,576 00	
Loans	100,000 00	
Interest Account (Bank Balances)	187,701 75	
Tax Account	8,683,250 85	
Tax Levy, 1895—warrants issued	2,701,213 77	
Tax Levy, 1896—warrants issued	1,987,984 51	
Bond Account	12,800,000 00	
Bond Interest and Premium Account	162,331 68	
Total receipts		$26,796,189 03

Expenditures.

The total expenditures for all purposes were $26,220,143.21, as follows:

Engineering Department	$ 942,263 71	
Engineering Department—Construction Account	16,527,361 21	
Clerical Department	60,660 90	
Treasury Department	9,951 20	
Law Department	250,701 68	
Law Department—Land Account	2,560,192 00	
General Account	308,205 87	
Police Department	158,406 40	
Pumping Plants	31,661 43	
Tax Account	91 00	
Loans Repaid	100,000 00	
Interest on Loans	2,163 52	
Interest on Tax Levy Warrants	73,270 52	
Emergency Funds—in hands of officers	6,000 00	
Emergency Fund (advance for contractors' pay rolls)	12,500 00	
Bond Account—bonds retired	1,200,000 00	
Bond Interest and Premium Account—interest Paid	1,275,500 00	
Tax Levy, 1895—warrants redeemed	2,701,213 77	
		$26,220,143 21
Balance on hand		549,045 82
Total Expenditures		$26,769,189 03

PRESIDENT KELLY'S MESSAGE.

"CHICAGO, December 9th, 1896.

To the Honorable the Board of Trustees of the Sanitary District of Chicago:

GENTLEMEN—In assumiug the duties of the high office which you have conferred upon me in my selection as your presiding officer for the ensuing year, I am not unmindful of the responsibilities which are coupled with this honor and which demand of your President the exercise of the greatest diligence and industry in order to meet the expectations of this Board and the public in carrying this great enterprise to an early completion. I assure you, in the beginning, that no effort of mine will be wanting in that co operation which we all so cheerfully give to realize the proud culmination of our labors as the servants of the Sanitary District of Chicago.

The rapidly increasing population of this municipality, and the requirements of the law under which we are organized, make it apparent to all, at this time, that the greatest diligence and expedition must be exercised by this Board if this work is to be completed in accordance with law and the Channel opened in time to avert the impending disasters to public health, which become more threatening year by year, as the flow of pollution continues toward the source of our great water supply. If this result is to be attained and the Channel opened during the season of 1898, I think every member of this Board feels that not a moment is to be lost in adopting, and entering upon, the execution of plans to carry the Channel through the City of Joliet, and to enlarge the channel of the Chicago River at the source, in order to obtain the requisite flow of 300,000 cubic feet of water per minute. The statement which has been so frequently made, showing that over ninety per cent of the work of the Main Channel is completed, has led the public, I fear, to an erroneous impression as to the sum total of the work which remains to be performed. While it is a gratifying fact that 90.8 per cent of the construction of the Main Channel, from Robey street to Lockport, a distance of over twenty-eight miles, is indeed completed, yet the great perplexing problems of conducting the sewage, with the requisite flow of water, into the Channel at Robey street, and of successfully carrying the great flow from Lockport through the City of Joliet without spreading devastation through the valley, still remain to be solved. The people of the Illinois Valley towns expect, and they have a right to expect and demand, that every requirement of our organic law shall be complied with before the sewage of this municipality be turned into the Drainage Channel. The exactions of this law are, I presume, familiar to us all, but even if not, they are a part of the law of this State, and constitute a binding compact between the people of this District and the citizens of the localities through which we are to conduct this great water flow. So far as my humble efforts can conduce to make the administration of the coming

year an earnest to the people of the valley that the law in its letter and its spirit is to be observed, they will be untiringly exerted in the direction of an honest compliance with the tacit pledge under which this great District was organized. I mention these expectations and these duties simply as a reminder to the members of this Board that the completion of the Main Channel, however gratifying, is far short of the physical and legal requirements which must be met before relief can be afforded by turning on the water. The acquisition of right of way for our lower Channel is fraught with a multitude of difficulties, while at the source, the improvements necessary in the Chicago River to give us the adequate flow of water exist, as yet, only in the plans of the engineers, without a single practical step having been taken by this Board toward their execution. The appropriations by Congress which have followed the efforts inaugurated by this Board several years ago will be of great service in deepening the navigable portion of the river; but upon this Board rests the great work of improving this stream as far up as Robey street, to meet the requirements of the District.

The finances of this District will require the strictest attention of this Board for the ensuing year. In past years there has been no occasion for special solicitude over the financial situation. The resources of the District were fully adequate to meet all demand at the time the various contracts were being let; but as the date of the completion of these contracts arrive and the necessity for letting new contracts becomes apparent, the tax upon our financial resources become the greatest problem for solution. It has been a matter of regret to every member of this Board that for the first time in the history of this municipality our warrants during the year just closed have been hawked upon the market at a discount; and it should be the effort of every member of this Board to relieve embarrassment with the least possible delay.

I suggest that the Committee on Finance require the Engineer at the earliest possible date to report to it the estimated cost, not only of the extension of the Channel from Lockport through Joliet, but also of the deepening and widening of the Chicago River, and of the construction of the various bridges and other work for which contracts are yet to be completed. This Committee may then be able to report to us the total expenses of future construction; and, by a comparison with available resources, we may know our exact financial situation.

I am sure every member will co-operate in the effort once more to regain our proud position of proclaiming that the Sanitary District of Chicago stands unique among the great municipalities of the State in the credit which its bonds and warrants enjoy in the financial markets of the world.

To the Committee on Federal Relations remains a responsibility which can no longer be delayed. It is the proud hope of every citizen of this municipality that this Drainage Channel may, at an early date, be converted into a great navigable waterway connecting the Father of Waters with the fresh water lakes of the American continent. Every step this municipality has been taking is in this direction, every contract for the erection of bridges for the railroads crossing our Channel has been framed with a clause permitting this District or the Federal Government, at the proper time, to substitute swinging bridges in place of the temporary structures erected to serve until the Federal Government shall extend its protecting hand to this District, and by its fiat and its aid convert this Channel into a great commercial waterway. It is needless, herhaps, to say that every member of this Board is in accord with the belief that the contracts still to be executed with the railroad companies must contain the same

provision for the substitution, at will, of swinging bridges for the temporary structures which suffice for the present demand.

It is a source of personal gratification to me, as well as satisfaction as a public official, that the non partisan traditions of this Board have been fully observed in my selection as your presiding officer; and to my fellow Trustees and the citizens and tax payers of this municipality, I give my promise that every official act of mine shall be exercised in preserving the non-partisan spirit which in past years has done so much to win for the officers of this District the confidence and encouragement of the public. On every member of this Board rests a great personal responsibility, and in the exercise of his responsible duties every member has a right to expect that his voice and his vote shall be equal to the voice and vote of every other member of this Board, regardless of the question of partisanship or past experience. And to every member of this Board should be afforded an equal voice in the selection of the officers and employes necessary to carry this important work to a completion.

In conclusion, I wish to suggest that in my opinion, as one Trustee, there is now a fruitful field at hand for the exercise of that salutary economy which the tax payers properly expect from us at all times. I recommend that the Committee on Engineering immediately inquire into the conditions of the Engineering Department and make such radical reductions of force as should be justifiable and permissible under existing conditions. In doing this, and in the employment of any assistaace which future needs may require, I am sure this Board will follow its precedents, by complying with the theory of civil service reform, and requiring that no man shall be assigned to a duty which he is unable properly to perform, and that no man shall be discharged for political reasons alone. The public have been educated to the belief that the rise or fall of political parties have no effect on the policies of this Board, and that no political party can assume to arrogate to itself the credit for the completion of this great work, which stands without a parallel in the engineering triumphs of the world, and which is a sufficient monument to commemorate the loyal and unselfish labor of every member of this Board.

Respectfully submitted,

(Signed) THOMAS KELLY,

President"

ANNUAL REPORT OF CLERICAL DEPARTMENT FOR 1896.

"CHICAGO, January 1, 1897.

To the Honorable the Board of Trustees of the Sanitary District of Chicago:

GENTLEMEN—I have the honor to herewith submit, in accordance with the Rules, the annual report of this Department for the year ending December 31, 1896.

During the year there were issued and delivered the fifth issue of bonds of the District in the sum of $800,000, dated February 1, 1896, payabled in currency, and bearing interest at 4½ per cent per annum, payable semi-annually, in January and July. Bids for this issue were opened February 10, 1896, and subsequently the sale of the entire issue was awarded to the First National and the Illinois Trust and Savings Banks of this city, their joint bid at the rate of $100\frac{6345}{10000}$ for the entire amount being the highest received, the bonds being delivered in installments, as per agreement, and the last portion taken and paid for under date of June 15, 1896.

As interest on outstanding bonds there was paid during the year the sum of $562,750, the same being $85,000 of the first issue, $135,000 of the second issue, $138,750 of the third issue, $171,000 of the fourth issue and $33,000 of the fifth issue. There were also paid and cancelled during the year $640,000 of bonds, being $100,000 of the first issue, $150,000 of the second issue, $150,000 of the third issue, $200,000 of the fourth issue and $40,000 of the fifth issue.

The tax levy of 1895, with a small amount collected from back taxes and double payments amounting to $180.08, produced a net total of $3,471,144.90, and the tax levy of 1896 will yield probably a little over this amount.

As interest on bank balances, there was received during the year the sum of $9,482.86, bringing the total received to date from this source up to the sum of $188,514.66.

On construction account, during the current year just closed, there was expended the sum of $4,079,836.92, bringing the total expenditure on this account to date to the sum of $16,994,592.81.

As begun in 1895, 6 per cent interest-bearing warrants, drawn against the tax levy of 1895, were issued during the year to the amount of $1,423,059.24, bringing the total amount of these issued up to the sum of $2,701,213.77, being the full quota of 75 per cent of the tax levy. Of this latter amount the sum of $1,000,000 was purchased from the contractors, to whom they were issued, by the Illinois Trust and Savings Bank, under the agreement of the Board with that institution, dated December 11, 1895.

The entire amount of these warrants issued against the tax levy of 1895 has now been redeemed by the Treasurer, out of the fund arising from the tax receipts, in strict accordance with the terms of the warrants and the requirements of the law.

There was also issued during the year the sum of $2,455,425.37 in 6 per cent interest-bearing warrants drawn against

the tax levy of 1896, the total of which amount is now outstanding.

On the expiration of the contract with the Illinois Trust and Savings Bank for the purchase at par of District warrants issued against the tax levy, the necessity for subdividing the larger warrants issued to contractors for construction account became at once apparent in order that every proper and reasonable facility might be furnished for their convenient and favorable disposal. This voluntary accommodation on the part of the District has added largely to the work of this Department, but it has enabled holders of the warrants to find a ready market and at satisfactory figures.

The unexpended balance of $272,500, remaining at the close of last year from the appropriation of October 9, 1895, for the payment of bonds and interest on bonds, and tax levy warrants, was expended during the year, and another appropriation to the amount of $200,000 for the same general purpose was made by ordinance of July 8, 1896, which has also been exhausted in the payment of bonds and interest that have become due.

There has been expended during the year for right of way the sum of $35,592.90, making the total expenditure on this account, to date, the sum of $2,560,192.00, and on the same account from warrants returned to the Distrtct there has been received the total sum of $45,480.03 since the Board was organized

The receipts from all sources for the year 1896 have been $8,175,768.08, making the total receipts since the organization of the District to date $27,494,801.95.

The expenditures for the year 1896 have been $8,493,423.32, making the total expenditures since the District was organized, to date, $27,372,815.34, and leaving a cash balance on hand January 1, 1897, of $121,986.61.

The expenses of the Clerical Department for the coming year will probably be about $12,000, and for the General Account about $50,000.

During the months of November and December payments on final estimates and reserve percentage were made, on the certificate of the Chief Engineer, on contracts for the following sections: 3, 6, 7, 9, 10, 11, 12, 13, 14, I, L, M, and completed portions of Sections K and H, a supplemental agreement for final completion of Section H having been made with Gahan & Byrne, contractors for that section.

On November 25th notice was received from the Chief Engineer of the suspension of work on contract for Section F, and later the matter of completing or reletting the work and the method to be pursued, was referred to the Committee on Engineering.

During the year numerous notices of claims for lien against the District contractors have been filed with this Department and brought to the attention of your Honorable Body.

Acting under authority of the Board, given under date of October 1 and December 30, 1896, warrants have been drawn to the amount of $12,500 and $6,438.94 for payment of unpaid laborers on contracts for Sections F and E, respectively, in accordance with the provisions of the contracts in reference thereto.

In the tables attached hereto, and made a part of this report, will be found detailed statements showing all receipts and expenditures for the past year, and also from the organization of the District to December 31, 1896.

(Signed) JAS. REDDICK,

Clerk of the Sanitary District of Chicago.'

(Accompanied by five tables.)

CLERK'S FINANCIAL STATEMENT.

RECEIPTS AND EXPENDITURES—SANITARY DISTRICT OF CHICAGO FOR 1896.

Receipts.

Balance on hand January 1, 1896		$ 439,641 85
Engineering Department (emergency fund returned, sale of protographs, etc.)	$ 3,044 71	
Tax Account (taxes, 1895, etc.)	3,471,144 90	
Bond Account (sale of bonds)	800,000 00	
Bond Interest and Premium Account (premium and accrued interest on bonds sold)	12,296 35	
Interest Account (interest on bank balances)	9,482 86	
General Account (rent, sale of histories, etc.)	814 65	
Tax Levy, 1895 (warrants drawn against tax levy of 1895)	1,423,059 24	
Tax Levy, 1896 (warrants drawn against tax levy of 1896)	2,455,425 37	
Emergency Fund (returned by C. S. Deneen, Attorney, at resignation	500 00	
Total		$8,175,768 08
Grand total		$8,615,409 93

**Expenditures.*

Engineering Department	$ 193,051 96	
Engineering Department—Construction Account	4,079,836 92	
Clerical Department	12,066 23	
Treasury Department	2,194 16	
Law Department	37,740 15	
Law Department—Land Account	35,592 90	
General Account	49,058 07	
Bond Account	640,000 00	
Bond Interest and Premium Account	562,750 00	
Police Department	45,150 12	
Tax Account (double payments returned)	91 00	
Interest Account	73,270 52	
Tax Levy, 1895 (warrants redeemed)	2,701,213 77	
Emergency Funds	7,500 00	
Pumping Plant—Section 3	10,780 58	
Pumping Plant—Section 4	1,117 90	
Pumping Plant—Section 14	23,070 10	
Laborers on Contract Section F.	12,500 00	
Laborers on Contract Section E	6,438 94	
Total		$8,493,423 32
Balance on hand December 31, 1896		† 121,986 61
Grand total		$8,615,409 93

*Of these expenditures, the following shows the amounts paid in tax levy warrants and in cash:

Construction Account, 1895 tax levy warrants	$1,423,059 24
Construction Account, 1896 tax levy warrants	2,442,949 17

Pumping Plant, Section 3, 1896 tax levy warrants.....	$ 1,714 01	
Pumping Plant, Section 14, 1896 tax levy warrants. ..	9,634 03	
General Account, 1896 tax levy warrants...	1,128 16	
Total amount paid in tax levy warrants.....		$3,878,484 61
Construction Account, regular cash warrants.....	$ 213,828 51	
Other accounts, regular cash warrants.....	1,630,891 52	
Tax levy warrants of 1895 redeemed.....	2,701,213 77	
Interest on warrants redeemed.....	66,004 91	
Total amount paid in cash.....		$4,611,938 71
Emergency Fund, transferred from Engineering Account to Emergency Fund (Randolph).....		3,000 00
Making total expenditures as above.....		$8,493,423 32

† Adding to this cash balance of $121,986.61 the sum of $13,851.86, being the amount of outstanding warrants not yet presented to the Treasurer for payment, we have the sum of $135,838.47, which is the balance in hands of the Treasurer, as shown by his report to date of December 31, 1896.

As Emergency Funds there is now in the hands of the heads of departments the sum of $7,000, which may be added to the available cash balances of the District. Of this amount the sum of $3,000 is in the hands of Isham Randolph, Chief Engineer; $1,500 in the hands of W. M. McEwen, Attorney, and $2,500 in my own.

(Signed) JAS. REDDICK,

Clerk of the Sanitary District of Chicago.

RECEIPTS—SANITARY DISTRICT OF CHICAGO—

Months—1896.	Engineering Department.	Tax Account.	Bond Account.	Bond Interest and Premium Account.
January	$ 3,000 00			
February	20 10	$ 103,000 00	$ 250 000 00	$ 5.507 51
March		190,461 27	100,000 00	483 90
April		645,724 53	50,000 00	427 81
May		350,000 00	200,000 00	2.552 06
June			200,000 00	3.325 07
July	7 42	250,000 00		
August		300,000 00		
September	7 64	450,000 00		
October	4 21	450,000 00		
November	4 44	475,000 00		
December	90	256,959 10		
Totals	$ 3,044 71	$3,471,144 90	$ 800,000 00	$ 12,296 35

EXPENDITURES—SANITARY DISTRICT OF CHICAGO

Months—1896	Engineering Department	Engineering Department—Construction Account	Clerical Department	Treasury Department	Law Department	Law Department—Land Account	General Account	Bond Account	Bond Interest and Premium Account
January	$ 25,665 79	$ 199,982 63	$ 1,946 60	$ 333 33	$ 5,180 23	$ 4,000 00	$ 8,406 64		
February	667 75	148,172 45	128 34		99 53		446 86		
March	10,303 48	142,938 57	892 83	166 67	1,781 05		4,120 79		
April	10,841 38	219,179 14	838 83	166 66	3,241 63	125 00	5,624 43		
May	29,392 60	284,011 26	1,847 33	350 82	3,997 2[illegible]	30,337 00	5,422 32		$ 42,500 00
June	522 31	357,295 30	53 49		1,222 35		386 48	$150,000 00	239,250 00
July	17,524 75	351,534 82	942 08	166 67	5,990 70		3,736 03		
August	19,279 37	351,420 00	842 58	166 67	3,727 88	1,000 00	4,895 63		
September	19,181 26	342,421 94	859 17	166 67	1,731 71		2,621 59		
October	17,582 92	210,863 50	933 58	166 67	2,919 14	180 90	4,431 22	100,000 00	42,500 00
November	15,838 68	1,004,785 71	947 23	166 67	1,719 62		3,790 74		
December	26,251 67	467,231 60	1,834 17	343 33	6,129 09		5,175 34	390,000 00	238,500 00
Totals	$193,051 96	$4,079,836 92	$12,066 23	$ 2,194 16	$37,740 15	$35,592 90	$49,058 07	$640,000 00	$ 562,750 00

CHICAGO, January 1, 1897.

FROM JANUARY 1, 1896, TO DECEMBER 31, 1896.

Interest Account.	General Account.	Tax Levy—1895.	Tax Levy—1896.	Emergency Fund.	Monthly Totals.
$ 698 43	$ 8 00	$ 199,982 63	.....	....	$ 203,689 06
726 30	.....	148,172 45	.....	.....	507,426 36
1,245 63	.....	142,938 57	.....	.....	435,129 37
1,286 86	.....	219,179 14	.....	$ 500 00	917,118 34
1,180 29	300 00	70,182 75	.....	.....	624,215 10
1,041 30	107 50	357,295 30	.....	.....	561,769 17
609 14	.....	285,308 40	$ 66,226 42	.....	602,151 38
518 11	.....	.....	351,420 00	....	651,938 11
432 32	.....	.....	342,913 40	.....	793,353 36
389 27	.....	.....	220,201 60	.....	670,595 08
542 30	....	.....	1,007,223 09	.....	1,482,769 83
812 91	399 15	.....	467,440 86	.....	725,612 92
$ 9,482 86	$ 814 65	$1,423,059 24	$2,455,425 37	$ 500 00	$8,175,768 08

—FROM JANUARY 1, 1896, TO DECEMBER 31, 1896.

Police Department	Tax Account	Interest Account	Tax Levy, 1895	Emergency Funds	Pumping Plant Section 3	Pumping Plant, Section 4	Pumping Plant Section 14	Laborers on Contract Section F	Laborers on Contract Section E	Monthly Totals
$ 6,781 70	.....	$ 1,866 98	.....	$4,000 00	.....	.....	.....	.....	.....	$ 258,163 90
184 94	.....	4,175 17	$ 95,259 42	.....	.....	.....	.....	.....	.....	249,134 46
3,312 95	.....	6,045 97	166,846 91	.....	.....	.....	.....	.....	.....	336,409 22
3,955 20	.....	16,716 19	546,720 19	500 00	.....	.....	.....	.....	.....	807,908 65
6,784 88	.....	13,773 59	469,328 01	.....	.....	.....	.....	.....	.....	887,745 03
165 68	.....	.....	.....	1,000 00	.....	.....	$ 68 62	.....	.....	749,964 23
3,503 82	$91 00	7,446 90	253,380 63	.....	$ 3,361 52	.....	831 90	.....	.....	648,510 82
3,539 32	.....	7,358 04	301,789 86	.....	1,927 45	.....	8,653 13	.....	.....	704,599 93
3,591 01	.....	8,439 95	431,065 23	500 00	1,724 65	.....	1,137 62	.....	.....	813,440 80
3,641 80	.....	7,447 73	436,823 52	.....	1,631 77	.....	9,618 38	$12,500 00	.....	851,191 13
3,716 83	.....	.....	....	.....	1,249 49	.....	1,468 05	.....	.....	1,033,683 02
5,971 99	.....	.....	.....	1,500 00	885 70	$1,117 90	1,292 40	.....	$6,438 94	1,152,672 13
$45,150 12	$91 00	$73,270 52	$2,701,213 77	$7,500 00	$10,780 58	$1,117 90	$23,070 10	$12,500 00	$6,438 94	$8,493,423 32

(Signed) JAS. REDDICK, *Clerk of the Sanitary District of Chicago.*

TOTAL RECEIPTS OF SANITARY DISTRICT OF CHICAGO

YEAR.	Engineering Department.	Eng. Dept.—Construction Acct.	Loans.	Tax Account.	Bond Account.	Bond Interest and Premium Acct.
1890	.....	.....	$75,000 00	.....	.....	.....
1891	$1,583 33	.....	25,000 00	$ 957,260 78	.....	.....
1892	348 00	.....	.....	1,022,349 75	$1,010,000 00	$17,240 63
1893	1,284 74	.....	.....	1,167,097 26	990,000 00	25,920 33
1894	364 00	$80,041 60	.....	1,148,607 21	6,000,000 00	84,778 38
1895	681 08	1,513 98	.....	1,173,750 05	4,000,000 00	22,095 89
1896	3,044 71	.....	.....	3,471,144 90	800,000 00	12,296 35
Totals	$7,305 86	$81,555 58	$100,000 00	$8,940,209 95	$12,800,000 00	$162,331 58

TOTAL EXPENDITURES OF SANITARY DISTRICT OF CHICAGO—

YEAR	Engineering Department.	Engineering Department—Construction Account.	Clerical Department.	Treasury Department.	Interest on Loans.	Loans.	Law Department.	Law Department—Land Account.	General Account.	Bond Account.
1890	$ 61,407 93	.....	$ 2,912 81	$ 96 00	.....	.....	.....	.....	$ 3,232 59	.....
1891	65,999 07	.....	8,818 97	.....	$2,163 52	$100,000	$ 33,220 72	.....	57,956 44	.....
1892	132,621 12	$ 151,371 97	7,730 02	1,880 26	.....	.....	39,567 37	$ 587,972 13	41,126 13	.....
1893	154,631 54	2,097,816 44	9,180 32	2,019 50	.....	.....	60,754 25	1,293,687 76	50,189 26	$ 100,000
1894	185,496 30	4,858,147 97	10,829 94	2,053 40	.....	.....	45,502 80	525,501 74	55,918 65	250,000
1895	175,307 46	5,807,419 51	10,956 78	2,051 21	.....	.....	40,045 48	117,437 47	55,900 07	600,000
1896	193,051 96	4,079,836 92	12,066 23	2,194 16	.....	.....	37,740 15	35,592 90	49,058 07	640,000
Ttl's.	$968,515 38	$16,994,592 81	$62,495 07	$10,294 53	$2,163 52	$100,000	$256,830 77	$2,560,192 00	$313 381 21	$1,590,000

Balance on hand December 31, 1896 .....

Grand Total .....

CHICAGO, January 1, 1897.

FROM FEBRUARY 1, 1890, TO DECEMBER 31, 1896.

Law Department.	Law Dept.—Land Acct.	Interest Account.	General Account.	Tax Levy of 1895.	Tax Levy of 1896.	Emergency Fund.	Annual Totals.
.....	.....	$ 100 85	.....	.....	.....	.....	$ 75,100 85
.....	.....	6,053 79	.....	.....	.....	.....	989,897 90
.....	$ 1,176 50	26,029 18	$ 20 00	.....	.....	.....	2,077,164 06
.....	2,445 65	51,626 99	1,320 00	.....	.....	.....	2,239,694 97
$1,790 00	31,682 88	47,127 86	4,976 60	.....	.....	.....	7,399,367 93
1,500 00	10,175 00	48,093 13	1,844 50	$1,278,154 53	.....	.....	6,537,808 16
.....	.....	9,482 86	814 65	1,423,059 24	$2,455,425 37	$500 00	8,175,768 08
$3,290 00	$45,480 03	$188,514 66	8,975 15	$2,701,213 77	$2,455,425 37	$500 00	$27,494,801 95

FROM FEBRUARY 1, 1890, TO DECEMBER 31, 1896.

Bond Interest and Premium Account.	Police Department.	Tax Account.	Interest Account.	Tax Levy of 1895.	Emergency Fund.	Pumping Plant —Section 3.	Pumping Plant Section 4.	Pumping Plant —Section 14.	Laborers on Contract Section F.	Laborers on Contract Section E.	Annual Totals.
.....	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	$ 67,649 33
.....	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	268,158 72
.....	.....	....	.....	.....	.....	.....	.....	.....	.....	.....	962,269 00
$100,000	$ 20,148 71	....	.....	.....	.....	.....	.....	.....	.....	.....	3,888,427 78
307,500	51,184 05	....	.....	.....	.....	.....	.....	.....	.....	.....	6,292,134 85
543,750	47,884 36	....	.....	.....	.....	.....	.....	.....	.....	.....	7,400,752 34
562,750	45,150 12	$91	$73,270 52	$2,701,213 77	$7,500	$10,780 58	$1,117 90	$23,070 10	$12,500	$6,438 94	8,493,423 32
$1,514,000	$164,367 24	$91	$73,270 52	$2,701,213 77	$7,500	$10,780 58	$1,117 90	$23,070 10	$12,500	$6,438 94	27,372,815 34
.....											$121,986 61
.....											$27,494,801 95

(Signed) JAS. REDDICK, *Clerk of the Sanitary District of Chicago.*

ANNUAL REPORT OF TREASURY DEPARTMENT FOR 1896.

"CHICAGO, Ill., Jan. 30th, 1897.

To the Honorable the Board of Trustees of the Sanitary District of Chicago:

GENTLEMEN — I submit herewith for the consideration of your Honorable Body, annual report of the Treasurer for the year ending December 31st, 1896, showing a balance on hand of $135,838.47. Accompanying statement will be found certificates from the several banks showing amount on deposit at the close of business, December 31st, 1896.

You will notice that in two of the banks there is a larger amount than called for by the statement. This arises from the fact that checks on those two banks—the Garden City Banking & Trust Co., and the Metropolitan National—had not been paid though charged to them. The discrepancy between the certificate of the Chicago National Bank and the statement is caused by the fact that the Drainage Board has charged the interest on December 31st, while it is not credited by the bank until January 2nd, following.

Yours respectfully,

(Signed) F. M. BLOUNT,

Treasurer."

TREASURY DEPARTMENT, SANITARY DISTRICT OF CHICAGO.

RECEIPTS AND DISBURSEMENTS FOR YEAR ENDING DECEMBER 31ST, 1896.

Receipts.

Balance on hand January 1st, 1896		$ 440,170 56
Bond Account	$ 800,000 00	
Tax Account	3,471,144 90	
Interest Account (interest on monthly bank balances)	9,482 86	
Interest and Premium Account (interest and premium on bonds)	12,296 35	
General Account	814 65	
Engineering Department	3,043 81	
Total receipts		4,296,782 57
Grand total		$4,736,953 13

Disbursements.

Clerical Department	$ 12,057 23
Treasury Department	2,028 20
Engineering Department	190,736 68
Engineering Department—Construction Account	2,915,042 28

Law Department	$ 35,540 57	
Law Department—Land Account	35,592 90	
Police Department	45,135 45	
General Account	46,366 93	
Bond Account (bonds retired)	640,000 00	
Interest and Premium Account (interest on bonds)	562,750 00	
Interest Account (interest Tax Levy Warrants, 1895)	73,270 52	
Pumping Plant, Section 3	8,891 07	
Pumping Plant, Section 14	13,326 73	
Pumping Plant, Section 4	785 10	
Isham Randolph, Chief Engineer—Emergency Fund	3,000 00	
James Reddick, Clerk—Emergency Fund	2,500 00	
W. M. McEwen, Attorney—Emergency Fund	1,500 00	
Weir, McKechney & Co.	12,500 00	
Tax Account (Warrant 9381)	91 00	
Total Disbursements	$4,601,114 66	
Balance on hand December 31, 1896	135,838 47	
Grand total		$4,736,953 13

Balance Deposited as Follows:

Chicago National Bank	$ 37,390 04	
National Bank of Illinois	86,462 61	
Metropolitan National Bank	3,359 95	
Fort Dearborn National Bank	5,622 08	
Garden City Banking and Trust Company	3,003 79	
Total deposited		$ 135,838 47

RECEIPTS—SANITARY DISTRICT OF CHICAGO—

	January.	February.	March.	April.	May.
Bond Account	.....	$250,000 00	$100,000 00	$ 50,000 00	$200,000 00
Tax Account	.....	103,000 00	190,461 27	645,724 53	350,000 00
Interest Account (Bank)	$ 698 43	726 30	1,245 63	1,286 96	1,180 29
Premium and Interest on Bonds	.....	5,507 51	483 90	427 81	2,552 06
General Account	8 00	.....	.....	.....	300 00
Engineering Account	3,000 00	20 10	.....	.....	.....
Monthly Totals	$ 3,706 43	$359,253 91	$292,190 80	$697,439 20	$554,032 35
Balance on hand January 1, 1896					
Grand Total					

DISBURSEMENTS—SANITARY DISTRICT OF CHICAGO—

	January.	February.	March.	April.	May.
Clerical Department	$ 1,730 00	$ 261 60	$ 956 17	$ 858 83	$ 918 58
Treasury Department	167 36	166 67	166 67	166 66	166 66
Engineering Department	25,558 42	447 87	10,689 65	10,928 38	13,466 95
Engineering Department, Construction Account	.....	95,259 42	166,846 91	546,720 19	675,557 38
Law Department	4,706 75	506 63	1,847 43	3,236 63	1,943 67
Law Department, Land Account	4,000 00	.....	.....	125 00	30,337 00
Police Department	6,873 86	135 03	3,341 26	3,708 65	3,582 73
General Account	5,721 90	3,317 25	4,168 67	5,607 24	2,744 10
Bond Account	.....	.....	.....	.....	.....
Premium and Interest Account	.....	.....	.....	42,500 00	.....
Interest Account (Tax Warrants)	1,866 98	4,175 17	6,045 97	16,716 19	13,659 48
Pumping Plant, Section 3	.....	.....	.....	.....	.....
Pumping Plant, Section 14	.....	.....	.....	.....	.....
Pumping Plant, Section 4	.....	.....	.....	.....	.....
I. Randolph, Chief Engineer	3,000 00	.....	.....	.....	.....
James Reddick, Clerk	500 00	.....	.....	.....	.....
W. M. McEwen, Attorney	.....	.....	.....	500 00	.....
Weir, McKechney & Co	.....	.....	.....	.....	.....
Tax Account	.....	.....	.....	.....	.....
Monthly Totals	$ 54,125 27	$104,269 64	$194,062 73	$631,067 77	$742,376 55
Balance on hand December 31st, 1896					
Grand Total					

JANUARY 1, 1896, TO DECEMBER 31, 1896.

June.	July.	August.	September.	October.	November.	December.	Totals.
$200,000 00	.....	.....	.....	.....	.....	.....	$ 800,000 00
.....	$ 250,000 00	$ 300,000 00	$ 450,000 00	$ 450,000 00	$ 475,000 00	$ 256,959 10	3,471,144 90
1,041 30	609 14	518 11	432 33	389 27	542 30	812 91	9,482 86
3,325 07	.....	.....	.....	.....	.....	.....	12,296 35
107 50	.....	.....	.....	.....	.....	399 15	814 65
.....	7 42	.....	7 64	4 21	4 44	.....	3,043 81
$204,473 87	$ 250,616 56	$ 300,518 11	$ 450,439 96	$ 450,393 48	$ 475,546 74	$ 258,171 16	$ 4,296,782 57
.....							$ 440,170 56
.....							$ 4,736,953 13

JANUARY 1ST, 1896, TO DECEMBER 31ST, 1896.

June.	July.	August.	September.	October.	November.	December.	Totals.
$ 978 49	$ 934 58	$ 853 83	$ 848 34	$ 944 41	$ 917 58	$ 1,854 82	$ 12,057 23
184 16	166 67	166 67	166 67	166 67	166 67	176 67	2,028 20
16,488 33	17,293 64	19,131 21	18,834 20	18,196 10	15,850 48	23,851 45	190,736 68
7,599 14	253,380 63	301,789 86	431,065 23	436,823 52	.....	.....	2,915,042 28
3,209 35	6,033 80	3,756 33	1,723 81	2,866 79	1,751 75	3,957 63	35,540 57
.....	.....	1,000 00	.....	79 90	51 00	.....	35,592 90
3,539 33	3,475 68	3,554 94	3,617 88	3,623 48	3,645 37	6,037 24	45,135 45
3,109 46	3,740 76	4,895 63	2,621 59	2,598 34	4,429 58	3,412 41	46,366 93
150,000 00	.....	.....	.....	.....	100,000 00	390,000 00	640,000 00
239,250 00	.....	.....	.....	.....	42,500 00	238,500 00	562,750 00
114 11	7,446 90	7,358 04	8,439 95	7,447 73	.....	.....	73,270 52
.....	3,298 62	1,123 52	2,079 27	1,091 77	780 97	516 92	8,891 07
.....	831 90	8,653 13	796 51	1,169 94	623 57	1,251 68	13,326 73
.....	.....	.....	.....	.....	.....	785 10	785 10
.....	.....	.....	.....	.....	.....	.....	3,000 00
.....	.....	.....	500 00	.....	.....	1,500 00	2,500 00
1,000 00	.....	.....	.....	.....	.....	.....	1,500 00
.....	.....	.....	.....	12,500 00	.....	.....	12,500 00
.....	.....	91 00	.....	.....	.....	.....	91 00
$425,472 37	$ 296,603 18	$ 352,374 16	$ 470,693 45	$ 487,508 65	$ 170,716 97	$ 671,843 92	$4,601,114 66
.....							135,838 47
.....							$4,736,953 13

CERTIFICATES:

"THE CHICAGO NATIONAL BANK, Jan. 27th, 1897.

F. M. Blount, Treasurer, Sanitary District, Chicago:

This is to certify that at the close of business Dec. 31, 1896, the Sanitary District of Chicago had on deposit in this bank the following amount:

Sanitary District of Chicago.....$36,577 13

Yours truly,

(Signed) T. M. JACKSON,
Asst. Cashier."

"THE METROPOLITAN NAT. BANK OF CHICAGO, January 27, 1897.

Mr. F. M. Blount, Treasurer, Sanitary District of Chicago:

DEAR SIR—We beg to advise you that balance to your credit as Treasurer of the Sanitary District, at close of business December 31st, 1896, was One hundred thirty-eight thousand, three hundred fifty-nine and ninety-five one-hundredths (138,359.95-100) dollars.

Yours very truly,

(Signed) E. DICKINSON,
Asst. Cashier."

"GARDEN CITY BANKING & TRUST CO., CHICAGO, Jan'y 27th, 1897.

Fred M. Blount, Esq., Treas., Sanitary District, City:

DEAR SIR—In reply to your favor of the 26th inst., I would state that there was on deposit to the credit of the Sanitary District of Chicago at the close of business, December 31st, 1896, the sum of One Hundred thirty-three thousand and three dollars and seventy-nine cents ($133,003.79).

Yours very truly,

(Signed) JOHN W. BUEHLER,
Cashier."

"FORT DEARBORN NATIONAL BANK, CHICAGO, Jan. 27th, 1897.

Mr. F. M. Blount, Treasurer, Sanitary District, City:

DEAR SIR—Yours of the 26th inst., is received. The Sanitay District of Chicago had to its credit at the close of business, December 31st, 1896, $5,622.08 on our books.

Truly yours,

(Signed) JOHN A. KING,
President."

"THE NATIONAL BANK OF ILLINOIS, CHICAGO, Jan. 27, 1897.

F. M. Blount, Esq., Treasurer, Sanitary District, Chicago:

DEAR SIR—The amount to the credit of the Sanitary District of Chicago on the books of the National Bank of Illinois on Dec. 31, '96, was $86,462.61.

Respectfully yours,

JOHN C. MCKEON,
Receiver, National Bank of Illinois."

ANNUAL REPORT OF ENGINEERING DEPARTMENT—1896.

"CHICAGO, Feb. 1st, 1897.

To the Honorable, the Board of Trustees of the Sanitary District of Chicago:

GENTLEMEN—In the following report, I have endeavored to collect all of the facts essential to a clear statement of the progress of the work of the Sanitary District, covered by the several contracts for its construction, and to show its condition at the close of the year 1896. This report is designed to be a continuation of the concise history of the work which was brought down by me to January 1st, 1896, and appears in the Proceedings of your Honorable Body for that year (pages 3152 to 3201 inclusive).

The value of the work accomplished during the year 1896 aggregates $3,409,-251.42. The amount vouchered for payment (including reserve on completed sections) foots up $4,226,498.08.

The aggregate value of all contracts for construction and of work done on force account to December 31, 1896, is $19,399,-755.67. Total values earned up to the same date, $18,123,779.52. Percentage of work completed, on basis of values, 93.42. Total amount vouchered for payment, $17,164,788.54.

The work accomplished during the year, on the basis of volume, is as follows:

Glacial drift, 4,444,336 cu. yds., or 15.84 per cent.

Solid rock, 1,533,989.1 cu. yds., or 12.43 per cent.

Aggregate of solid rock and glacial drift, 5,978,325.1 cu. yds., or 14.79 per cent.

Total previous excavation, *31,145,052 cu. yds., making the total to December 31, 1896, 37,123,377.1 cu. yds., or 91.88 per cent.

Retaining wall built during 1896, 241,588.2 cubic yards; built previous to 1896, 99,583.44 cubic yards, making a total of 341,171.64 cubic yards, or 91.72 per cent.

These are the results in gross of the year's work, the details of which are taken up section by section in the body of this report and appear in tabular form as exhibits, as follows:

Exhibit "A," letter of Mr. William Trinkaus, Record Clerk, giving the financial statement of the Engineering Department for the year and presenting data for harmonizing the same with the report of the Clerk. This letter is accompanied by three tables, viz.: No. 1, a classified statement of engineering expenses for 1896; No. 2, a classified statement of construction expenses for 1896; No. 3, a classified statement of all expenses from February 1, 1890, to December 31, 1896.

Exhibit "B," Table No. 1, a revised estimate in detail of the work under contract up to January 1, 1897.

Table No. 2, statement showing condition of contracts January 1, 1897, with data for harmonizing the same with the report of the Clerk.

Table No. 3, a classified statement of

* My last annual report gave the total yardage completed as 31,145,090. This amount has since been reduced by 38 yards (28 yards of glacial drift and 10 yards of solid rock), on account of final notes having been rendered on river diversion, force account work, Section 11.

cubic yards of material excavated and retaining wall and bridge masonry built by contractors from the beginning of the work to January 1, 1897, and includes a revised approximate estimate of yardage and amount remaining to be done.

Table No. 4, estimated cost of Main Channel and auxiliary work in process of construction and essential to its completion.

Table No. 5, a graphical chart showing values of the work done to January 1, 1897.

Section "O"—McMahon & Montgomery Co., et. al., Contractors.

The barrier presented by the tracks of the several railroads crossing the Channel, prevented progress on this section by dredges. A dredge worked up nearly to the right of way of the Stock Yards tracks and west of the railroads excavation was by steam shovels and wheel scrapers, the material excavated being carried off to brick yards, the Southwest Boulevard and the Lake Front.

The returns show 332,225 cubic yards excavated from the Main Channel and 7,414 cubic yards from the Collateral Channel during the year. The references to this section in the Proceedings are as follows: January 15th (page 3096), these contractors presented a communication to the Board, asking consideration of a claim for compensation on account of delay. This was referred to the Committee on Engineering. In an effort to expedite this work, the Chief Engineer communicated with some of the leading bridge firms, with a view to getting prices on an eight-track structure to carry the railroads over the Channel (see his letter book January 30th, pages 329 to 336; February 13th, pages 379 to 386, and February 20th, pages 399 to 406). On March 12th (page 459 of his letter book), the Chief Engineer, acting under the provisions of the "extra work" clause of the contract, ordered the contractors for this section to furnish and erect a bridge of 80-foot span, to carry the eight tracks of the railroads crossing the Channel on Campbell Avenue. Proceeding under this order, the contractors entered into contract with the Detroit Bridge and Iron Company for the superstructure.

The weight of this structure, for which final voucher was returned September 22d, was 677,091 pounds; contract price, 2.8 cents per pound; extra for turned bolts ordered by Chief Engineer, $490.00; total, $19,448.55; added to which, as per terms of contract, was 10 per cent. on cost, or $1,944.85; making a total paid these contractors, on account of same, of $21,393.40. The piles, timber, etc., for foundations for this bridge were purchased by the Chief Engineer, and the driving, framing, etc., was done by the Pan Handle Railway. The cost of material was as follows:

Spry Lumber Company.....	$ 1,467 31
Marsh & Bingham Company.....	955 45
Jones & Laughlin Company.....	113 02
Total, material bills.....	$ 2,535 78

The charge for labor is apparently out of all proportion to the cost of material, but it must be remembered that this work was done subject to the delays and interruptions occasioned by the traffic of the railroads, whose trains had to be kept moving.

Under the contracts with these roads, the cost of all changes of grade and alignment made to conform to the plans of this District, is to be borne by the District. The cost so far of these changes, as per bills rendered, has been for the P., C., C. & St. L. R. R., $3,692.06; of the Union Stock Yards and Transit Company, $3,155.96, and of the Chicago and Northern Pacific Railroad, $2,449.74. The temporary bridge erected for the use of the Southwest Boulevard and Western avenue was completed and travel turned on it on June 3rd. The cost of this structure foots up $1,761.13. The cost of changing roadways and maintaining same to December 31st, foots up $2,511.92. On June 10th (page 3373), on request of the Chief Engineer, an additional appropriation of $1,500.00 was made for this work. On June 24th (page 3389), the Chief Engineer transmitted form of advertisement and specifications for bridge to be erected under the contract of the District with the Southwest Boulevard. The Joint Committee on Engineering and Finance, to whom they were referred on July 1st (page 3396), reported favorably, and the Clerk was directed to advertise the work (pages 3397 to 3409). On August 12th (page 3473), authority was granted the Chief Engineer, on his request, to pay

$12.72 to Hayes Bros. for removing curbing and paving from Western avenue.

The Chief Engineer, acting under the provisions of Clause "D," Section 15 of the contract, relating to "extra work," directed these contractors to excavate beneath the eight-track railroad bridge, hereinbefore designated, to a proper depth and width, to admit of the passage of dredges, scows and tugs to be used in prosecuting the work, fixing the price to be paid therefor at 14 cents per cubic yard in addition to the contract price (see Chief Engineer's letter book, page 21, September 9th). Under this order, 30,419 cubic yards had been excavated to December 31st, at a cost of $4,258 66 in excess of the original contract price. On September 2nd (page 3486), the Chief Engineer presented the bill of W. L. Stebbings for professional services in designing eight-track bridge, as per arrangement authorized by Joint Committee of Engineering and Finance, to which Committee the bill was referred, and by them it was reported favorably, September 23rd (page 3528), and ordered paid. On September 2nd (page 3495), bids for Southwest Boulevard bridge were opened (see section of this report on bridges). On September 23rd (page 3525), the action of the Chief Engineer in having temporary bridge at Western avenue refloored was confirmed and bills therefor (included in statement of cost hereinbefore made) ordered paid.

The volume and value of work on this section is as follows:

Main Channel, glacial drift, 1,504,736 cu. yds. at 21c		$315,994 56
Collateral Channel, glacial drift, 132,009 cu. yds. at 19.9c		26,269 79
Surface ditches, glacial drift, 12,000 cu. yds. at 21c		2,520 00
Total regular contract		$344,784 35
Cut in Main Channel, from station 66+25 to 68, 9,487 cu. yds. glacial drift at 42c		3,984 54
Dredge pit through Pan Handle embankment, 30,419 cu. yds. glacial drift at 14c		4,258 66
Temporary bridge and roadway at Western avenue—		
Material and labor of construction	$1,761 13	
Roadway changes and repairs	2,511 92	
		4,273 05
Pan Handle bridge—		
Erection of approach span to 8-track bridge	$21,393 40	
Foundations	5,228 68	
Track changes, P., C., C. & St. L. R. R. Co	3,692 06	
Track changes, C. & N. P. R. R. Co	824 10	
Track changes, U. S. Y. & T. Co	3,155 96	
Material for raising C. & N. P. tracks	1,625 64	
		$ 35,919 84
Total cost of section		$393,220 44
Amount earned to January 1, 1897		267,683 89
Unfinished work		$125,536 55
Reserved percentages		28,385 82
*Balance required to complete		$153,922 37

Proportion of work completed, 66.18 per cent.

*This amount will be increased by the amount of certain outstanding bills not received in time for this report.

The total cost of the section, as shown above, is $393,220.44, but the cost of the superstructure of the eight-track bridge ($21,393.40) should be credited to this account and charged to permanent account, which leaves $371,827.04 properly charged to this section.

Section "N"—Hayes Bros. Contractors.

The work of this section has been prosecuted by dry methods. West of Kedzie avenue, a steam shovel has been operated in conjunction with an incline conveyor, depositing spoil on the Right of Way. The returns show the output for the year as 211,596 cubic yards glacial drift.

The volume and value of work on this section is as follows:

Main Channel, glacial drift, 1,105,443 cu. yds. at 23c		$254,251 89
Surface ditches, glacial drift, 8,400 cu. yds. at 23c		1,932 00
Total cost of section		$256,183 89
Amount earned to January 1, 1897		80,821 08
Unfinished work		$175,362 81
Reserved percentage		10,102 64
Balance required to complete		$185,465 45

Proportion of work completed, 31.55 per cent.

Section "M"—The Heidenreich Company, Contractors, Charles E. Schlytern, Assignee.

This section was practically completed in 1895, as the report for that year showed that at December 31st, 99.42 per cent of the work was done.

On February 19th (page 3234), the Joint Committee on Judiciary and Finance reported the claims of sundry creditors of the contractors for this section and recommended that the same, with all facts relating thereto, be submitted to a Judge of a Court of Record in Cook County for proper order or decree of settlement, etc. This report was adopted. On June 24th (page 3389), the Joint Committee on Engineering and Finance recommended a reduction in the amount of the bond. On November 18th (page 3610), the Joint Committee on Judiciary and Finance presented a report covering the sundry claims against this section and a certified copy of the order of the County Court relating thereto, which report was adopted. On the same date (page 3613), the Chairman of the Joint Committee on Engineering and Finance presented a report in reference to the final payment upon this section, accompanied by the final certificate of the Chief Engineer, under date of November 5th (pages 3618-19). This report was laid over until November 25th (page 3617), when favorable action thereon was had and payment ordered. This final estimate includes 8,544 cubic yards which had slidden into the Channel from the sides.

The amount and value of the work done on this section is as follows:

Main Channel, net section, glacial drift, 717,650 cu. yds. at 21.7c.	$155,730 05
Main Channel, slides, glacial drift, 8,544 cu. yds. at 21.7c.	$ 1,854 05
Surface ditches, glacial drift, 1,986 cu. yds. at 21.7c.	430 96
Total cost of section.	$158,015 06
*Amount earned and paid to Jan. 1, 1897.	$158,015 06

Proportion of work completed, 100 per cent.

*Final voucher rendered Oct. 31, 1896.

Section "L"—The Heidenreich Company, Contractors—Charles E. Schlytern, Assignee.

Like its companion, Section "M," this section was practically completed in 1895. The returns at December 31st, of that year, showed 99.28 per cent of the work done.

On February 19th (page 3234), the Joint Committee on Judiciary and Finance reported the claims of sundry creditors of the contractors for this section, and recommended that the same, with all facts relative thereto, be submitted to a Judge of a Court of Record, in Cook County, for proper order or decree of settlement, etc. This report was adopted. On June 24th (page 3389), the Joint Committee on Engineering and Finance recommended a reduction in the amount of the bond. On November 18th (page 3610), the Joint Committee on Judiciary and Finance presented a report covering the sundry claims against this section, and a certified copy of the order of the County Court relating thereto, which report was adopted. On the same date (page 3613), the Chairman of the Joint Committee on Engineering and Finance presented a report in reference to the final payment upon this section, accompanied by the final certificate of the Chief Engineer (page 3618). This report was laid over until the 25th of the same month (pages 3617-18), when favorable action was had thereon and payment ordered. This final estimate includes 9,913 cubic yards of material which had slidden into the Channel and excludes 4,159 cubic yards at the westerly end which could not be removed on account of the proximity of the Belt Railway of Chicago, which amount the contractors for Section "K" have agreed to remove at the contract price on Section "L" (see Chief Engineer's letter book, November 24th, page 226).

The volume and value of the work on this section is as follows:

Main Channel, net section, glacial drift, 1,089,922 cu. yds. at 19.7c.	$214,714 63
Main Channel, slides, glacial drift, 9,913 cu. yds. at 19.7c.	1,952 86
Surface ditches, glacial drift, 3,145 cu. yds. at 19.7c	619 57
*Total amount earned and paid to January 1, 1897.	$217,287 06
Excavation to be done under Belt Railway, 4,159 cu. yds. at 19.7c.	$ 819 32
Total cost of section.	$218,106 38

Proportion of work completed, 99.62 per cent.

*Final voucher for work done rendered November 9, 1896.

Section "K," Christie & Lowe, Contractors.

This section was completed in 1895, except that portion falling within the right of way of the Belt Railway of Chicago. Quite a volume of material, however, slid into the Channel and was removed during the summer.

The references in the Proceedings to this section are as follows: June 24th (page 3389), action was had on the release of bonds on this and other sections; August 12th (page 3473), payment of $41.79 for drainage boxes on this section was authorized; November 25th (pages 3624-5), the Joint Committee on Engineering and Finance reported in favor of making payment upon this section in accordance with the final certificate of the Chief Engineer, dated November 5th (page 3625). See page 226 of the Chief Engineer's letter book, under date of November 24th, for an order relating to removal of material yet remaining in the Channel on this section and section "L," which order has been accepted by these contractors.

The amount and volume of work on this section is as follows:

Main Channel, net section, glacial drift, 1,116,200 cu. yds. at 25c	$ 279,050 00
Main Channel, slides, glacial drift, 28,031 cu. yds. at 25c	7,007 75
Surface ditches, glacial drift, 4,800 cu. yds. at 25c	1,200 00
Box drains	41 79
*Total amount earned and paid to January 1, 1897	$287,299 54
Excavation to be done under Belt Railway, 31,553 cu. yds. at 25c	7,888 25
Total cost of section	$295,187 79

Proportion of work completed, 97.33 per cent.

*Final voucher for work done rendered November 9, 1896.

Section "L." Christie & Lowe, Contractors,

This section was practically completed in 1895. All slides were removed and slopes dressed to true prism in 1896.

On November 11th (pages 3596-7), payment was authorized on the Chief Engineer's final certificate, dated November 5th (page 3600).

The volume and value of work done on this section is as follows:

Main Channel, net prism, glacial drift, 1,131,649 cu. yds. at 25c	$ 282,912 25
Main Channel, slides, glacial drift, 21,230 cu. yds. at 25c	5,307 50
Surface ditches, glacial drift, 6,505 cu. yds. at 25c	1,626 25
Total cost of section	$ 289,846 00
*Total amount earned and paid to January 1, 1897	289,846 00

Proportion of work completed, 100 per cent.

* Final voucher rendered October 31, 1896.

Section "H"—Gahan & Byrne, Contractors.

At January 1, 1896, the progess report on this section showed 55.78 per cent. of the work completed. On January 22nd (page 3128), the Joint Committee on Engineering and Finance filed a report, which was adopted, permitting these contractors to continue to spoil the entire volume of excavation on the north spoil area, subject to limitations set forth in the report. On March 4th (page 3256), the Chairman of the Engineering Committee amended the agreement between the District and these contractors for an extension of the time within which these sections are to be completed. This amendment was accepted. On April 15th (page 3294), the Joint Committee on Finance and Engineering reported back, for filing, a communication presented to this committee February 13, 1895 (page 2554), asking for possession of the Right of Way across the Santa Fe R. R. right of way. On November 25th (page 3625), the Joint Committee on Engineering and Finance reported an agreement under which final settlement could be made for that portion of this section between stations 311+50.7 and 346, which agreement was adopted. In accordance with its provisions, a contract was drawn up and executed by the proper officers of the District and the contractors, and reported back to the Board on December 2d (page 3643), accompanied by a certificate from the Chief Engineer, dated November 30th, conforming to the requirements of the contract (page 3644). The reserve paid under this contract and corresponding estimate voucher was $33,941.64.

The total volume and value of work on this section is as follows:

*Main Channel, net prism, east of station 346, glacial drift, 815,417 cu. yds. at 29c	$236,470 93
*Main Channel, slides, east of station 346, glacial drift, 15,113 cu. yds. at 29c	4,382.77
Main Channel, net prism, west of station 346, glacial drift, 258,228 cu. yds. at 29c	74,886.12
Main Channel, surface ditches, glacial drift, 3,454 cu. yds. at 29c	1 001.66
Total cost of section	$316,741.48
Amount earned to January 1, 1897	276,564.30
Unfinished work	$ 40.177.18
Reserved percentage	4.463 83
Balance required to complete	$ 44.641.01

Proportion of work completed, 87.32 per cent.

*These amounts are covered in the final estimate for that portion of the section east of station 346.

Section "G"—Gahan & Byrne, Contractors.

At January 1, 1896, the work accomplished on this section amounted to nearly 70.78 per cent of the whole, or 965,291 cubic yards. Since that date, 310,397 cubic yards have been excavated. The references in the Proceedings to this section are as follows: April 15th (page 3294), the Joint Committee on Finance and Engineering reported back, for filing, a communication presented to this Committee February 13, 1895 (page 2554), asking for possession of the Santa Fe Railroad right of way. On October 7th (page 3555), the Chief Engineer called the attention of the Board to the impounding of water on this section and the evil consequences likely to result therefrom. On November 11th (page 3596), the said Engineer was instructed to provide drainage for this water at a cost not to exceed $350.00. This work was done at a cost of $324.92 (see voucher in favor of Gahan & Byrne, dated December 31st).

The opening up of the work at the westerly end of this section developed, between stations 406 and 411, on the southerly side, a sub-stratum of unstable material, muck, mud and clay intermingled, at about ten feet below the surface. This stratum averaged probably eight feet in thickness. This material was not stable enough to sustain the spoil from the Channel, and a considerable subsidence took place, the displaced material being forced toward, and, some of it, into the Channel. Attention was called to this condition of affairs about the middle of December, and on the 22nd of that month it was visited by several of the Trustees.

The volume and value of the work on this section is as follows:

Main Channel, glacial drift, 1,356,065 cu. yds. at 28c	$ 379,698 20
Surface ditches, glacial drift, 7,676 cu. yds. at 28c	2,149 28
Drain into I. & M. Canal	324 92
Total cost of section	$ 382,172 40
Amount earned to January 1, 1897	357,517 56
Unfinished work	$ 24.654 84
Reserved percentage	44.649 08
Balance required to complete	$ 69,303 92

Proportion of work completed, 93.55 per cent.

Section "F"—Weir, McKechney & Co., Contractors.

The condition of this section at the end of the year is most unsatisfactory. Of the 589,199 cubic yards of glacial drift reported in place at the time the contract for completing the section was awarded to these contractors, 200,900 cubic yards were removed in 1895 and only 190,547 cubic yards in 1896. The history of this work for the year, as recorded in the Proceedings, is as follows: January 3d (page 3075), these contractors presented a notice of claim for damage by overflow in December, 1895, (see annual report for that year, page 3157 of Proceedings). On May 4th (page 3319), they notified the Board that they would make claim for payment for levee construction necessary for protecting the section from future overflow. On May 13th (page 3332), the Board adopted the report of the Committee on Engineering adverse to this claim. On October 1st (page 3539), the Chief Engineer advised the Board of suspension, amounting to abandonment of the work, by the contractors. On the same date (page 3544), the Joint Committee on Engineering and Finance reported in favor of paying labor on this section out of its reserved percentage. This report, which was adopted, was accompanied by the opinion of the Attorney and General Counsel sustaining the legality of the recommendations. Under the order then made, the Attorney and Chief Engineer did, on the 3rd, 6th and 8th days of October and at

intervals thereafter, as the claimants presented themselves, pay to the employes of the said contractors the several sums due them, aggregating $11,432.26, and in addition to this sum a further payment of $832 42 to the legal representatives of C. C. Vehmeyer, on the order of the Board passed December 16th (pages 3676-7), making the total payments by the Attorney and Chief Engineer chargeable to this section, $12,264.68. On October 7th (page 3555), the Joint Committee on Engineering and Finance reported in favor of allowing these contractors to resume work under conditions set forth in the report, which report was adopted. Under date of November 23rd (see proceedings of November 25th, page 3616), the Chief Engineer again reported these contractors delinquent, and the Chairman of the Engineering Committee presented an order, which was adopted, requiring these contractors to resume work within ten days. On December 2nd (page 3639), the Clerk reported having served the order, a copy of which he presented. On December 16th (page 3674), the Chief Engineer reported failure to comply with the order to resume work, and an order was passed (page 3674), restraining these contractors from further interference with the section.

The volume and value of work on this section is as follows:

Main Channel, glacial drift, 498,910 cu. yds. at 23¾c		$118,491 12
Main Channel, glacial drift, 589,199 cu. yds. at 29½c		173,813 71
Main Channel, solid rock, 16,724 cu. yds. at 90c		15,051 60
River Diversion, glacial drift, 158,234 cu. yds. at 23¾c		37,580 58
Total regular contracts		$344,937 01
Spillway construction (including 4,713 cu. yds. glacial drift excavation at 69.9c)		20,518 41
Excavation near spillway, 16,500 cu. yds. glacial drift at 70.62c		11,653 09
Raising Santa Fe railroad bridge		5,875 65
Total cost of section		$382,984 16
Amount earned to January 1, 1897—		
Under Ricker, Lee & Co's contract	$195,397 31	
Under Weir, McKechney & Co's contract	115,476 87	
		310,874 18
Unfinished work		$ 72,109 98
Reserved percentage—		
Ricker, Lee & Co	$ 19,668 77	
Weir, McKechney & Co	$ 14,434 61	
		$ 34,103 38
Required to complete on basis of Weir, McKechney & Co's contract.		$106,213 36
*Excess of Weir, McKechney & Co's contract over Ricker, Lee & Co's contract		35.551 34
Balance required to complete on basis of Ricker, Lee & Co's contract,		$ 70.662 02

Proportion of work completed, 81.17 per cent.

*By opinion of Attorney (page 3056 of Proceedings), the excess of cost growing out of re-letting this section should be charged to the original contractors. Of this difference, $22,508.20 has been earned to January 1, 1897 by second contractors, and $13,043.14 remains to be earned.

Section "E"—Angus & Gindele, Contractors.

Progress on this section during the year has not been up to the requirements. At January 1st, these contractors had removed but 889,726 cubic yards (476,000 to January 1, 1896, and 413,726 in 1896) of the amount remaining on the section when they entered upon it as the successors of Streeter & Kenefick. On December 22d, these contractors went into the hands of a receiver. On December 30th (pages 3693-4), upon recommendation of the Committee on Finance, the Board authorized and ordered payment of amounts due laborers in the employ of these contractors to the sum of $6,300 00, to be made by the Clerk of the Board.

The work remaining to be done on the section is approximately 459,464 cubic yards of glacial drift and 78,765 cubic yards of solid rock. The outer levee provided for in the contract has also to be built.

The volume and value of the work on this section is as follows:

Main Channel, glacial drift, 467,640 cu. yds. at 27½c		$128,601 00
Main Channel, glacial drift, 1,349,190 cu. yds. at 27c		364,281 30
Main Channel, solid rock, 78,765 cu. yds. at 70c		55,135 50
River Diversion, glacial drift, 95,720 cu. yds. at 27½c		26,323 00
Total regular contract		$574,340 80
Overhaul, 9,641 cu. yds, at 26.755c		2,579 45
Summit Highway		190 01
Total cost of section		$577,110 26
Amount earned to Jan. 1, 1897, under Streeter & Kenefick's contract	$158,111 74	
Amount earned to Jan. 1,		

1897, under Angus & Gindele's contract	$240,226 02	
		$398,337 76
Unfinished work		$178,772 50
Reserved percentage, Streeter & Kenefick	$19,417 78	
Reserved percentage, Angus & Gindele	30,028 25	
		$ 49,446 03
		$228,218 53
Less flood damages charged to Streeter & Kenefick		5,115 22
Balance required to complete on Angus & Gindele's contract		$223,103 31
*Excess of Streeter & Kenefick's contract over Angus & Gindele's contract		30,375 45
Balance required to complete on basis of Streeter & Kenefick's contract		$253,478 76

Proportion of work completed, 69.02 per cent.

*Taking the opinion of the Attorney (page 3056 of Proceedings), the difference between the cost of completing this section at the original contract prices of Streeter & Kenefick and the cost on the basis of the Angus & Gindele contract ($30,375.45), upon the completion of the work, becomes an asset of Streeter & Kenefick. This margin of difference on the work already done by Angus & Gindele is $4,448.63, leaving $25,926.82 to be earned on this account.

Section "D"—E. D. Smith & Co., Contractors.

During the year the work upon this section has amounted to 212,000 cubic yards of glacial drift and 44,900 cubic yards of solid rock. Apart from the references in the monthly reports and payment of estimates, it does not appear in the Proceedings for 1896.

The volume and value of the work on this section is as follows:

Main Channel, glacial drift, 1,914,168 cu. yds. at 26 7-16c	$506,058 16
Main Channel, solid rock, 100,000 cu. yds. at 92½c	92,500 00
Total regular contract	$598,558 16
Raising Calumet Terminal bridge	1,880 54
Pile trestle (390 feet)	1,000 00
Total cost of section	$601,438 70
Amount earned to January 1, 1897	545,245 04
Unfinished work	$ 56,193 66
Reserved percentage	67,795 56
Balance required to complete	$123,989 22

Proportion of work completed, 90.66 per cent.

Section "C."—Western Dredging & Improvement Co., Contractors.

These contractors have excavated 388,200 cubic yards of glacial drift within the year, leaving approximately 142,593 cubic yards in place.

The references to this section in the Proceedings are found only in the progress reports of the Superintendent of Constrction and the Clerk's reports of estimates paid.

The volume and value of the work on this section is as follows:

Main Channel, glacial drift, 1,884,456 cu. yds. at 23½c	$442,847 16
River Diversion, glacial drift, 162,537 cu. yds. at 23½c	38,196 19
Total regular contract	$481,043 35
Building sand, 6,253 cu. yds. at 12½ c.	781 63
Raising I. & M. Canal Bank, force account	579 08
Total cost of section	$482,404 06
Amount earned to January 1, 1897	448,894 71
Unfinished work	$33,509 35
Reserved percentage	55,941 75
Balance required to complete	$89,451 10

Proportion of work completed, 93.05 per cent.

Section "B"—Heldmaier & Neu, Contractors.

The excavation on this section foots up for the year, 372,000 cubic yards of glacial drift and 10,000 cubic yards of solid rock. This development of rock was unlooked for and is not provided for in any previous estimates.

This section appears in the Proceedings in the Superintendent of Construction's monthly progress reports and the Clerk's reports of estimates paid.

The volume and value of work on this section is as follows:

Main Channel, glacial drift, 1,549,000 cu. yds. at 27c	$ 418,230.00
Main Channel, solid rock, 15,000 cu. yds. at 95c	14,250.00
River Diversion, glacial drift, 212,486 cu. yds. at 27c	57,371.22
Total regular contract	$ 489,851.22
Raising I. & M. Canal bank	$ 1,680.12
Revetting levee, 2,000 cu. yds. at 20c.	400.00
Total cost of section	$ 491,931 34
Amount earned to January 1, 1897	485,484.12
Unfinished work	$ 6,447.22
Reserved percentage	60,425.50
Balance required to complete	$ 66,872.72

Proportion of work completed, 98.69 per cent

Section "A."—Heldmaier & Neu, Contractors.

The output upon this section for the year was 1,066,628 cubic yards of glacial drift and 674 cubic yards of solid rock, which exceeds any record heretofore made in the progress of this work in the same period of time. On January 8th (page 3081), the Chief Engineer recommended that Clause "J" as applied to this section be suspended and the reservation of $44,923.70 held thereunder by this District be paid to said contractors, which recommendation was adopted by the Board and payment authorized.

The volume and value of the work on this section is as follows:

Main Channel, glacial drift, 2,576,508 cu. yds. at 30⅝c	$789,055 58
Main Channel, solid rock, 4,188 cu. yds. at 80c	3,350 40
River Diversion, glacial drift, 128,425 cu. yds. at 30⅝c	39,330 16
Total regular contracts	$831,736 14
Completing levee, 87,361 cu. yds. at 36c	31,449 96
Overhaul on levee, 50,893 cu. yds. at 20c	10,178 60
Excavating muck, Desplaines River, 122,342 cu. yds. at 15c	18,351 30
Levee trestle, 4,400 feet at $1.954	8,597 35
Raising I. & M. Canal bank	5,888 63
Extra depth in Desplaines River Diversion, 21,225 cu. yds. at 30⅝c	6,500 16
Repairing I. & M. Canal, flood damages	847 40
Removing hard material, Desplaines River	285 60
Removing trestle to pass dredge through	220 60
Revetting muck levee	828 00
Total cost of section	$914,883 74
Amount earned to January 1, 1897	794,676 80
Unfinished work	$120,206 94
Reserved percentage	88,941 15
Balance required to complete	$209,148 09

Proportion of work completed, 86.86 per cent.

Section No. 1—Griffiths & McDermott, Contractors.

Within the year, these contractors have excavated 318,700 cubic yards of glacial drift, 273,800 cubic yards of solid rock and built 44,766 cubic yards of retaining wall, laid in cement. Questions have arisen on this section as to the manner of preparing foundations for retaining wall, and on July 1st (page 3420), these contractors presented a written protest to the Board, against the ruling of the Chief Engineer in the premises. This protest was referred to the Committee on Engineering and Judiciary. On September 2nd (page 3495), a second communication was addressed to the Board, which was referred, without printing, to the Committee on Judiciary.

The total volume and value of the work on this section is as follows:

Main Channel, glacial drift, 109,540 cu. yds. at 27c	$ 29,575 80
Main Channel, glacial drift, 11,926 cu. yds. at 30⅝c	3,652 34
Main Channel, glacial drift, 1,144,000 cu. yds. at 42.9c	490,776 00
Main Channel, solid rock, 550,000 cu. yds. at 80c	440,000 00
Main Channel, retaining wall, 66,700 cu. yds. at $2.90	193,430 00
Main Channel, slope paving, 1,285 cu. yds. at 60c	771 00
River Diversion, glacial drift, 5,876 cu. yds. at 27c	1,586 52
Total regular contracts	$1,159,791 66
River Diversion, force account, glacial drift, 158,617 cu. yds. at 86.53c	137,254 90
River Diversion (John Lehman), glacial drift, 10,162 cu. yds. at 42c	4,268 04
River Diversion (John Lehman) removing stumps and timber	504 41
Overhaul to Section A levee, 164,051 cu. yds. at 20c	32,810 20
Willow Springs Road, force account, (Heldmaier & Neu)	1,719 86
Willow Springs Road, force account, (Alfred Harlev)	778 22
Raising levee to protect section from overflow	1,044 05
Dyke at Columbia Park (Conley Bros.)	300 00
Raising I. & M. Canal bank, force account	241 57
Removing dam from river (S. T. Hart)	210 00
Repairing Columbia Park buildings	30 00
Hay used in repairing levee	10 50
Total cost of section	$1,338,963 41
Amount earned to January 1, 1897	1,107,875 51
Unfinished work	$ 231,087 90
Reserved percentages	122,017 24
Balance required to complete on basis of Griffiths & McDermott's contract	$ 353,105 14
*Excess of cost over Harlev contract	162,646 00
Balance required to complete on basis of original contract	$ 190,459 14

Proportion of work completed, 82.74 per cent.

*By opinion of the Attorney (page 3056 of Proceedings), the difference in cost caused by failure of original contractor to do the work, is chargeable to said contractor. Of this difference, $154,677.10 has been earned to January 1, 1897, and $7,968.90 remains to be earned.

Section No. 2—McArthur Bros., Contractors.

This section was completed in the month of October, and final inspection was made by the Chief Engineer on October 23rd.

On June 10th (page 3376), a communication from these contractors was presented to the Board, asking for protection from water flowing on to their sections from Section 3. On November 4th (page 3585), they sent into the Board a communication calling attention to the completion of their work.

The total volume and value of the work on this section is as follows:

Main Channel, glacial drift, 29,675 cu. yds. at 28c	$ 8,309 00
Main Channel, glacial drift, 691,925 cu. yds. at 50c	345,962 50
Main Channel, solid rock, 477,300 cu. yds. at 80c	$ 381,840 00
Main Channel, retaining wall, 38,580 cu. yds. at $3.50	135,030 00
River Diversion, glacial drift, 29,516 cu. yds. at 28c	8,264 48
Total regular contract	$ 879,405 98
River Diversion, force account, glacial drift, 89,718 cu. yds. at 61.31c	55,005 68
Total cost of section	$ 934,411 66
Amount earned and vouchered to January 1, 1897	932,911 66
Amount not vouchered	$ 1,500 00
Reserved percentage	109,738 25
*Amount required to complete	$ 111,238 25

Proportion of work vouchered 99.84 per cent.

* Subject to correction in final voucher should errors be found in checking the computations.

Section No. 3—Gilman & Co., Contractors.

This section was completed in May. On June 1st, these contractors would have shut down their pumps, but as the District had made no provision for caring for the large amount of water originating on this section, they were induced to continue pumping for a few days longer, so as to give the District a chance to make such provision. On June 10th (page 3376), the Board, on recommendation of the Joint Committee on Engineering and Finance, authorized the purchase of the Gilman & Co. pumping plant, consisting of four pumps, three engines, four boilers, tools, etc., comprising same, for the sum of $1,500.00. This price having been agreed to by the members in advance of this transaction, the plant was turned over to the District on the 9th. On June 24th (page 3388), the Board authorized the purchase, by the Chief Engineer, of supplies and expenditures for repairs, etc., account pumping plant. On same date (page 3389), the Joint Committee on Engineering and Finance reported favorably on a release of the bond on this and other sections, subject to conditions recommended in the report. On October 14th (page 3562), the Chief Engineer presented a report on certain claims of these contractors for compensation for extra work. In discussing claim No. 3, the word "acting" should be changed to *acted*. On November 11th (page 3596), the Joint Committee on Engineering and Finance presented a report, recommending final payment upon this and other completed sections, upon the final certificate of the Chief Engineer. The final certificate for this section is dated November 5th (page 3598). On November 25th (page 3623), the Joint Committee on Engineering and Finance reported a waiver, by these contractors, of claims covered by the Chief Engineer's report of October 14th (page 3562). This left only bills for pumping, due June 1st to 8th and supplies furnished to the District to be adjusted.

The cost of operating pumps on this section from June 9th to the suspension of the pumps, December 15th, was for labor $4,641.70; coal, $3,046.14; repairs, $1,438.33; oil and waste, $246.56; total, $9,372.73.

The volume and value of work done on this section is as follows:

Main Channel, glacial drift, 73,310 cu. yds. at 27c	$ 19,793 70
Main Channel, glacial drift, 352,395 cu. yds. at 56c	197,341 20
Main Channel, solid rock, 760,778 cu. yds. at 76c	578,191 28
Main Channel, retaining wall, 14,039 cu. yds. at $3.25	45,626 75
Total cost of section	$840,952 93
*Amount earned and paid to January 1, 1897	$840,952 93

Proportion of work completed, 100 per cent.

*Final voucher rendered October 31, 1896.

Section No. 4—McArthur Bros., Contractors.

This section was completed in the month of October, and final inspection was made by the Chief Engineer on October 23rd.

On June 10th (page 3376), the communication in regard to water from section 3 (previously referred to in report on section 2), was presented to the Board. On November 4th (page 3585), these contractors sent in a communication, calling attention to the completion of their work. On November 1st, the pumping plant on this section was turned over to this District, on agreed rental for pumps; $5.00 per day for each pump, with engines, etc., for operating the same. On December 23rd (page 3682), the request of the Chief Engineer for authority to pay rental of pumps and purchase supplies was referred to the Joint Committee on Engineering and Finance. For details of agreement covering rental of pumps, see letter book of Chief Engineer, under date of October 31st (page 146). The cost of pumping under this arrangement is as follows: Labor, $1,117.90; coal, $137.50; repairs, $272.54; rental, $440.00, and oil and waste, $59.26; making a total of $2,027.20.

The total volume and value of work on this section is as follows:

Main Channel, glacial drift, 48,593 cu. yds. at 27c	$	13,120 11
Main Channel, glacial drift, 1,048,153 cu. yds. at 49c		513,594 97
Main Channel, solid rock, 262,428 cu. yds. at 80c		209,942 40
Main Channel, retaining wall, 68,169 cu. yds. at $3.50		238,591 50
Total regular contracts	$	975,248 98
River Diversion, force account, 106,803 cu. yds. glacial drift at 50.2c, and 17,857 cu. yds. solid rock at $1.472		79,910 23
Total cost of section	$	1,055,159 21
Amount earned and vouchered to January 1, 1897		1,052,132 77
Amount not vouchered	$	3,026 44
Reserved percentage		121,527 82
Balance required to complete	$	124,554 26

Proportion of work vouchered, 99.71 per cent.

Section No. 5—The Qualey Construction Company, Contractors.

The progress upon this section within the year was as follows: 66,700 cubic yards glacial drift, 202,700 cubic yards solid rock and 27,290 cubic yards retaining wall, laid in cement mortar. The rock cutting throughout this section will average about ten feet, although at the easterly end, the rock drops below grade for a short distance. The walls founded upon the surface of the rock are carried up, as on all walled sections, to five feet above Chicago datum. The wall between stations 990 and 1000 was completed prior to October 31, 1895. Between stations 994 and 996+50, the height of wall was about nineteen feet and the depth, from base of wall to grade line, about thirteen and one-half feet. On September 21st, Mr. Chas. L. Harrison, Assistant Engineer in charge, advised me that the natural rock below the wall between the stations last named, showed signs of failure. On that day, quite a mass of rock—wedge-shaped, edge down--sloughed off from the lower seven feet into the Channel, but the wall showed no cracks or other signs of failure. On the night of September 23rd, the entire wall between stations 994 and 996+50 went into the Channel and was buried by a mass of muck and soft clay which extended across the Channel for about 130 feet. On October 21st, the Chief Engineer directed the Qualey Construction Company to clean up this slide and rebuild the wall under the "extra work" clause of the contract (Clause D, Section 19). The prices fixed for doing the work were, for material removed, 50 cents per cubic yard; for wall rebuilt, $3.25, the regular contract price. (See Chief Engineer's letter book, page 133.) Under this order, the contractors had removed at December 31st, 14,500 cubic yards of the slide and rebuilt 1,800 cubic yards of wall, besides scabbling off 800 cubic yards of rock in preparing new foundations. This failure was not due to faulty construction of the wall, for the internal evidences showed a high grade of mortar and plenty of it with good bond throughout. It would be out of place to discuss the theories of this failure in a report which is dealing with the facts.

To shut off the expense of maintaining the pumping plants on sections 3 and 4, these contractors were offered a bonus of $700.00 for cutting a narrow channel through their section, to let the water down to the pump on Section 14 (see Chief Engineer's letter book, under date of October 30th, page 143), the same to be completed by November 15th. This work was prosecuted by them in good faith, but the obstacles were such that it was not completed until December 12th. In view of all of the facts in the case the "time clause" was

waived and a voucher returned for this amount, December 31st.

The total volume and value of the work on this section is as follows:

Main Channel, glacial drift, 918,000 cu. yds. at 27c		$247,860 00
Main Channel, solid rock, 376,100 cu. yds. at 73½c		276,433 50
Main Channel, retaining wall, 54,629 cu. yds. at $3.25		177,544 25
Main Channel, overhaul, glacial drift, 668,700 cu. yds. at 4c		26,748 00
Total regular contract		$ 728,585 75
Removing spoil bank, 16,671 cu. yds. at 27c		4,501 17
River Diversion, force account, 12,256 cu. yds. at 50.97c		6,246 54
Riprap on levee, 500 cu. yds. at 70c		350 00
Removing slide of September 23, 1896, and rebuilding wall—		
Removing 15,000 cu. yds. gracial drift at 50c	$7,500 00	
Scabbling 1,300 cu. yds. rock at 73½c	955 50	
Retaining wall, 2,000 cu. yds. at $3.25	6,500 00	
Total cost of slide		14,955 50
Cutting narrow channel		700 00
Total cost of section		$755,338 96
Amount earned to January 1, 1897		749,327 21
Unfinished work		$ 6,011 75
Reserved percentage		90,480 19
Balance required to complete		$ 96,491 94

Proportion of work completed, 99 20 per cent.

Section No. 6—Mason, Hoge & Co., Contractors.

This section was finished June 11th. The final estimate showed the following amount of work done within the year: 20,995 cubic yards glacial drift, 185,955 cubic yards solid rock and 1,861.7 cubic yards of retaining wall. On June 8th (page 3083), the Board adopted the report of the Joint Committee on Engineering and Finance, sustaining the position of the Chief Engineer in his rulings upon the manner of preparing retaining wall foundations and the manner of building said wall, a protest against which was presented to the Board, November 20, 1895 (page 2941). On June 24th (page 3389), the question of reduction of contractors' bond was reported on favorably. On September 2d (page 3486), the Chief Engineer asked authority to make payment "for concrete foundation beneath retaining walls" built under his instructions at a cost of $558.59. A great deal of retaining wall on all sections was built after rock had been channeled, but before it had been removed from the Channel, the inspectors having to depend on surface indications and the information afforded by probing in the Channel cut to determine the character of the substratum of the rock. In the case in question, when the rock in front of station 1037 proved so faulty that it had to be removed, the cavity was filled with concrete. Payment of this bill was authorized September 23rd (page 3528). On December 2nd (page 3641), the Board adopted the report of the Joint Committee on Engineering and Finance and ordered final payment on this section on the certificate of the Chief Engineer; said certificate was issued November 5th (page 3642).

The total value and volume of work done on this section is as follows:

Main Channel and river diversion, glacial drift, 777,795 cu. yds. at 27c		$ 210,004 65
Main Channel, glacial drift, 24,100 cu. yds. at 22c		5,302.00
Main Channel, solid rock, 549,355 cu. yds. at 73½c		$ 403,775.93
Main Channel, retaining wall, 30,361.7 cu. yds. at $3.25		98,675.52
Total regular contract		$ 717,758.10
Embankment, glacial drift, 24,701 cu. yds. at 65c		16,055.65
Hard material in levee, 14,938 cu. yds. at 25c		3,734.50
Raising levee to grade, 2,707 cu. yds. at 27c		730.89
Riprap in levee, 4,593 cu. yds. at 63c		2,893.59
Suppressing bog fires		462.05
Underpinning retaining wall with concrete		558.59
Total cost of section		$ 742,193.37
*Amount earned and paid to January 1, 1897		742,193.37

Proportion of work completed, 100 per cent.

*Final voucher rendered October 31, 1896.

Section No. 7—Mason, Hoge & Co., Contractors.

This section was completed on May 8th. The final estimate showed the following amount of work done within the year: 9 321 cubic yards glacial drift, 108,641 cubic yards solid rock and 379.9 cubic yards retaining wall. On January 8th (page 3083), will be found the action of the Board sus-

taining the Chief Engineer's rulings in regard to foundations, etc., of retaining wall (see contractors' protest, November 20, 1895, page 2941). On June 24th (page 3389), action in matter of releasing bond is reported.

On the morning of October 31, 1895, a distinct earthquake shock was felt in Chicago and the Desplaines Valley. On the day following, it was found that a mass of the rock on the south side of the Channel, at about station 1057+80, had moved slightly toward the Channel and westerly, cracking and damaging the wall which had been built across a gap in the solid rock, made by an old quarry excavation. The damage to the wall was so serious, that the Chief Engineer ordered about thirty-five feet of it torn down and rebuilt, under the provisions of the "extra work" clause of the contract. The cost of this item was $372.44 (see voucher No. 218, dated June 18, 1896). On December 2nd (page 3641), the Board adopted the report of the Joint Committee on Engineering and Finance and ordered final payment on the certificate of the Chief Engineer (page 3642) which said certificate was passed.

The total volume and value of the work done on this section is as follows:

Main Channel and river diversion, glacial drift, 279,638 cu. yds. at 26c..	$ 72,705 88
Main Channel and river diversion, solid rock, 934,041 cu. yds. at 73½c..	686,520 14
Main Channel, retaining wall, 6,179.9 cu. yds. at $3.25.....	20,084 67
Total regular contract.....	$779,310 69
Quarrying dimension stone, 8,358 cu. yds. at $1.00.....	8,358 00
Riprap on levee, 4,277 cu. yds. at 63c..	2,694 51
Embankment, 3,517 cu. yds. at 65c....	2,286 05
Earth core for levee.....	2,000 00
Raising levee to grade.....	381 16
Raising levee, force account.....	1,000 00
Suppressing fires on levee..... ..	693 08
Piling dimension stone.....	400 00
Tearing down and rebuilding retaining wall at station 1058,.....	372 44
*Total cost of section.....	$797,495 93
†Amount earned and paid to January 1, 1897.....	$797,495 93

Proportion of work completed, 100 per cent.

*This amount excludes an unexpended appropriation of $3,800.00 for raising and placing hard material on levee.

†Final voucher rendered October 31, 1896.

Section No. 8—Mason, Hoge, King & Co., Contractors.

This section was completed on May 4th, except that portion of it within the limits of the Santa Fe right of way, where there still remains abont 19,782 cubic yards, which cannot be removed until the bridge is built for that company.

The work reported for the year was as follows: 570 cubic yards glacial drift, 81,430 cubic yards solid rock and 174.9 cubic yards retaining wall.

The Proceedings contain the following references to this section: January 8th (page 3083), action of the Board sustaining rulings of the Chief Engineer in regard to foundations, etc., of retaining wall (see contractors' protest November 20, 1895, page 2941); January 15th (page 3096), claim of Michael Guilford referred to Joint Committee on Judiciary and Engineering, without reading; January 29th (page 3132), Alfred Roebuck for labor and gravel on Stephens street road, $500.00, which was authorized February 5th (pages 3142-3); June 24th (page 3389), release of contractors' bond considered, and October 21st (page 3569), adverse report on claim of Michael Guilford.

Owing to the accumulation of water on sections 6, 7 and the east half of 8, it was necessary to drive a tunnel through the rib of rock under the Santa Fe railroad, to let the water flow down to the pumps on section 14. This was done under the "extra work" clause of the contract and was ordered by the Chief Engineer, September 11th (see letter book, page 40). The prices fixed were $6.00 per lineal foot of tunnel (six feet in diameter) and $1.50 per cubic yard for excavation in open cut. The amount excavated was 121.1 cubic yards of solid rock and the resulting cost to the District was $733.65.

The final voucher for this work is dated October 31st and the final certificate, November 5th. The certificate is as follows: "I hereby certify that Mason, Hoge, King & Co., contractors for Section 8 of the Main Channel, taken by them on assignment from Agnew & Co., the original contractors, have completed all of the work covered by their contract for said section in accordance with the contract and to the full satisfaction of the Chief Engineer, except as to that portion of the section

covered by the right of way of the Atchison, Topeka & Santa Fe Railway, upon which they have not been permitted to enter within the limit of time covered by the contract, nor since the expiration of the same; therefore, these contractors cannot be held derelict on account of the unfinished work across said right of way. This certificate is subject to any unaccrued or unmatured liabilities or duties arising or growing out of said contract."

The total volume and value of work on this section is as follows:

Main Channel and river diversion, glacial drift, 108,072 cu. yds. at 26c..	$ 28,098 72
Main Channel and river diversion, solid rock, 1,240,530 cu. yds. at 74¾c.	927,296 18
Main Channel, retaining wall, 2,874.9 cu. yds, at $3.25	9,343 43
Total regular contract	$964,738 33
Railroad and highway bridges	40,868 39
Moving cable towers	2,992 15
Highway trestle across Main Channel	966 37
Agnew & Co., for relinquishing claims	2,000 00
Quarrying dimension stone, 1,370.2 cu. yds. at $1.00	1,370 20
Improving Stephens street	1,000 00
Moving telegraph line	487 58
Right of way fence	222 02
Tunnel under Santa Fe Railroad (including excavation of 121.1 cu. yds. of rock)	733 65
*Total amount earned to Jan. 1, 1897,	$1,015,378 69
Rock in place, 19,782 cu. yds. at 74¾c	14,787 04
Total cost of section	$1,030,165 73

Proportion of work completed, 98.56 per cent.

*Final voucher for work done rendered October 31, 1896.

Section No. 9.—Halvorson, Richards & Co., Contractors.

This section was finished in November, 1895. The following references to it are found in the Proceedings: June 24th (page 3389), action on release of contractors' bond. The final estimate is dated November 1, 1896, and the final certificate, November 5th (see Proceedings of November 11th, page 3598).

The total volume and value of work done on this section is as follows:

Main Channel and river diversion, glacial drift, 117,455 cu. yds. at 26c..	$ 30,538 30
Main Channel and river diversion, solid rock, 1,020,642 cu. yds, at 76.9c.	784,873 70
Total regular contract	$815,412 00
Adjustment of Agnew & Co.'s claims	$ 3,000 00
Trestle and track charges (Western Stone Company)	1,012 30
Total cost of section	$819,424 30
*Amount earned and paid to Jan. 1, 1897	$819,424 30

Proportion of work completed, 100 per cent.

* Final voucher rendered October 31, 1896.

Section No. 10—E. D. Smith & Co., Contractors.

This section was completed in September, 1895. The following references to it are found in the Proceedings: April 8th (page 3288), report of Joint Committee on Engineering and Finance on right of the District to require contractors to pump water after expiration of contract time; May 4th (page 3317), action on payment of bills for work done by Mason, Hoge & Co., on order of the Superintendent of Construction to protect this section from overflow in December, 1895. These two bills, amounting to $82.31, were ordered paid and charged to E. D. Smith & Co. on recommendation of the Chief Engineer (see Proceedings of May 13th, pages 3333-4); June 24th (page 3389), release of contractors' bond considered; November 11th (page 3596), payment of final voucher, dated October 31st. Engineer's final certificate dated November 5th (page 3599), where date given as 9th, is an error.

The volume and value of work done on this section is as follows:

Main Channel and river diversion, glacial drift, 62,056 cu. yds. at 25c..	$ 15,514 00
Main Channel and river diversion, solid rock, 1,200,166 cu. yds at 80c...	960,132 80
Total regular contract	$ 975,646 80
River diversion levee, force account	24,063 17
Building bridge and changing and maintaining tracks for Western Stone Company	22,999 12
Protection levee, quarry No. 5	1,400 58
Stairway and platform	86 68
Repairing levee and break in I. & M. Canal	82 31
Total cost of section	$1,024,278 66
*Amount earned to January 1, 1897..	1,024,278 66

Proportion of work completed, 100 per cent.

*Final voucher rendered October 31, 1896, $3,363.18 of which is held for adjustment of pumping claims of Mason, Hoge & Co.

Section No. 11—Mason, Hoge & Co., Contractors.

This section was completed in 1895. The references to it in the Proceedings for 1896 are as follows: June 24th (page 3389), action on release of contractors' bond; September 2d (page 3486), Chief Engineer reports extra bill for channeling, $55.18, which was allowed September 23d (page 3528); November 11th (page 3596), payment of final estimate ordered, date of estimate October 31st, date of Chief Engineer's certificate November 5th (page 3599).

The volume and value of work done on this section is as follows:

Main Channel and river diversion, glacial drift, 49,855 cu. yds. at 30¼c..	$ 15,081 14
Main Channel and river diversion, solid rock, 1,000,979 cu. yds. at 79¼c.	793,275 86
Total regular contract	$808,357 00
River diversion, force account. 6,865 cu.yds.gracial drift at 70.8c and 4,409 cu. yds. solid rock at $2.098	14,113 82
Core for levee, force account	17,907 10
Extra work on levee	1,138 82
Extra work, channeling machine	55 18
*Total cost of section	$841,571 92
†Amount earned and paid to January 1, 1897	841,571 92

Proportion of work completed, 100 per cent.

*This amount excludes an unexpended appropriation of $1,000.00 for raising levee.

†Final voucher rendered October 31, 1896.

Section No. 12—Mason, Hoge & Co., Contractors.

This section was practically finished in 1895. The references to it in the Proceedings for 1896 are as follows: January 8th (page 3083), action of the Board sustaining the ruling of the Chief Engineer relating to retaining wall foundations. Same date (page 3085), communication from Highway Commissioners of Du Page Township, relating to Romeo highway. On July 8th (page 3431), the Joint Committee on Engineering and Finance reported favorably on the request of the Commissioners and transmitted plans and specifications for making the improvements asked for. The work was ordered advertised, and on September 9th (pages 3508-10), bids were opened. There were only two bidders. On September 23d (page 3527), this work was, on recommendation of the Joint Committee on Engineering and Finance, awarded to Daniel Sullivan, the lowest bidder. Contract with Sullivan was reported to the Board, October 1st (page 3540). The total cost of this work was $1,732.72 (see final estimate, dated December 16th). June 24th (page 3389), action on release of contractors' bond. November 11th (page 3596), payment of final estimate ordered; date of estimate, October 31st; date of Chief Engineer's certificate, November 5th (page 3599).

The volume and value of work done on this section is as follows:

Main Channel and river diversion, glacial drift, 55,769 cu. yds. at 30¼c...	$ 16,870.12
Main Channel, solid rock, 998,709 cu. yds. at 79¼c	791,476.88
Main Channel, dry rubble masonry, 17.44 cu. yds. at $1.66	28.95
Main Channel, cement masonry, 9,269.5 cu. yds. at $3.50	32,443.25
Total regular contract	$ 840.819.20
Draining Goose Lake, 7,475 cu. yds. rock, at $1.196	8,942.88
Core for levee	7,541.87
Trestle for highway across Main Channel	910.44
Romeo roadway changes	300.00
Repairs to trestle	56.12
Railroad crossing, Romeo highway	23.18
Romeo highway (Daniel Sullivan contract)	1,732.72
Total cost of section	$ 860,326.41
*Amount earned and paid to January 1, 1897	860,326.41

Proportion of work completed, 100 per cent.

*Final voucher rendered October 31, 1896.

Section 13—Mason, Hoge & Co., Contractors.

This section was practically completed in 1895. The references to it in the Proceedings are as follows: January 8th (page 3083), action of the Board sustaining the rulings of the Chief Engineer relating to retaining wall foundations; June 24th (page 3389), action on release of contractors' bond; November 11th (page 3596), payment of final estimate ordered; date of estimate, October 31st; date of Chief Engineer's certificate, November 5th, (page 3599).

The volume and value of the work done on this section is as follows:

Main Channel, glacial drift, 33,810 cu. yds. at 26c	$ 8,790 60
Main Channel, solid rock, 1,033,665 cu. yds. at 74¾c	772,664 59

Main Channel, cement masonry, 10,898 cu. yds. at $3.50	$ 37,933 00
Total cost of section	$ 819,388 19
*Amount earned and paid to January 1, 1897	$ 819,388 19

Proportion of work completed, 100 per cent.

*Final voucher rendered, October 31, 1896.

Section No. 14—Smith & Eastman, Contractors.

The history of this section is fuller of incident than that of any other on our list. The references in the Proceedings are as follows: On January 22nd (page 3100), the Chief Engineer reported to the Board a request from the Santa Fe Railway for price on rip-rap stone. On April 15th (page 3294), the Joint Committee on Engineering and Finance, to whom the request was referred, reported adversely. On February 13th (page 3202), in obedience to an order of the Board of November 27, 1895 (page 2956), the Chief Engineer transmitted advertisement and specifications for retaining wall (pages 3202-12). On February 19th (page 3238), the Joint Committee on Engineering and Finance, to whom the advertisement and specifications were referred, reported favorably thereon, and they were ordered published. On February 26th (page 3250), a communication from Smith & Eastman, calling attention to their having completed the excavation covered by their contract, and requesting payment of other claims made by them. April 8th (page 3288), the Joint Committee on Engineering and Finance presented a report, covering the right of the District to require these contractors to continue to pump and keep the section free from water after the date fixed for the completion of the contract. The Chief Engineer was ordered to notify the contractors of the conclusions of this report (see Chief Engineer's letter book, dated May 22, 1896 (page 164), for compliance with this order. April 22d (page 3311), bids on retaining wall were opened and ordered tabulated. On May 13th (pages 3332-3), the report of the Joint Committee on Engineering and Finance recommending that Campbell & Dennis, the lowest bidders, be awarded the contract for retaining wall, etc., covered by their bid. May 27th (page 3345), the Committee, President and Clerk reported having executed the contract with Campbell & Dennis, and on the same date, the Finance Committee reported favorably on their bond. The contract appears on pages 3346 to 3353 inclusive. On May 27th (pages 3355-7), the Board acted favorably upon the report of the Joint Committee on Engineering and Finance, and awarded contract for pumping plant to MacRitchie & Nichol, for the sum of $16,000.00. This plant is designed to care for all water accumulating in the Channel westerly of section No. 1, and is therefore not a proper charge against section No. 14. June 10th (page 3374), payment was authorized of bills for loading and transporting clay from section "N" to this section, for use as puddle in a dam at west end of section; amount of bills, $134.45. June 24th (page 3389), action on release of contractors' bond. July 1st (page 3395), communication relating to completion of section, and claims returned for filing by Joint Committee on Judiciary and Finance. July 8th (page 3427), bills of Wright, Meysenburg, Sinclair & Carry for constructing dam ($678.79), and for laying side track to pumping works ($87.28), were referred to the Joint Committee on Engineering and Finance, which said Committee reported favorably on July 22nd (page 3443), and the bills were ordered paid. On August 5th (page 3464), the Chief Engineer asked confirmation of his action in employing force to operate pumps, at the wages stated by him, and his action was confirmed. He also, on same date (page 3464), asked authority for purchase of coal and supplies for this pumping station, which request was referred to the Joint Committee on Engineering and Finance, who reported back on November 11th (page 3595), and their report, recommending that authority be given, was adopted. On August 5th (page 3467), the claim presented under date of June 10th by Smith & Eastman of $5.00 per car for use of side track, was ordered placed on file. September 2nd (page 3486), the communication of Campbell & Dennis, contractors for concrete wall, reciting that certain machinery belonging to Smith & Eastman had been left in positions to impede their work, was submitted by the Chief Engineer, and an order was passed, giving the President, Attorney and Chief Engineer power to act in the premises. On September 23d (page 3524), on request of the Chief Engineer,

authority was given for payment of all bills incurred for the building erected to house the pumping plant, amounting in all to $883.87. On December 10th (page 3668), the communication of Smith & Eastman, accompanied by their claims amounting to $79,052.78, was referred to the Chief Engineer for his ruling. On December 16th (page 3674), he reported on these claims. On the same date (page 3677), the Joint Committee on Engineering and Finance presented a report, which was adopted, recommending payment to Smith & Eastman the amount of their final voucher ($107,513.04), less the sum of the claims filed against them ($39,549.18).

The volume and value of the work done on this contract by Smith & Eastman is as follows:

Main Channel, glacial drift, 167,046 cu. yds. at 20c	$ 33,409 20
Main Channel, glacial drift, 213,119 cu. yds. at 36c	76,722 84
Main Channel, solid rock, 1,016,425 cu. yds. at 73c	741,990 25
Total cost of Smith & Eastman's contract	$852,122 29
*Amount earned to January 1, 1897	852,122 29

Volume and value of work covered by Campbell & Dennis contract:

Foundation excavation, 8,400 cu. yds. at 38c	$ 3,192 00
Backfilling, 95,000 cu. yds. at 14c	13,300 00
Concrete retaining wall, 23,500 cu. yds. at $2.74	64,390 00
Total cost of Campbell & Dennis' contract	$80,882 00
Amount earned to January 1, 1897	49,705 60
Unfinished work	$31,176 40
Reserved percentage	6,213 20
Balance required to complete	$37,389 60

SUMMARY.

Total cost of section	$933,004 29
Earned on section to January 1, 1897,	901,827 89
Unfinished work	$31,176 40
Reserved percentage	6,213 20
Balance required to complete section	$37,389 60

Proportion of work completed, 96.66 per cent.

*Final voucher rendered October 31, 1896, $39,549.18 of which is held for adjustment of claims.

Section No. 15—Wright, Meysenburg, Sinclair & Carry, Contractors for Excavation and Retaining Wall.

The volume of work done within the year was 3,843 cubic yards glacial drift, 254,200 cubic yards solid rock, and 44,811.2 cubic yards concrete retaining wall. On July 8th (page 3428), the Chief Engineer reported to the Board his action in restraining these contractors from blasting for retaining wall foundations, with his recommendations thereon. This report was referred to the Joint Committee on Engineering and Finance, who reported favorably thereon July 22d (page 3443), and their report was adopted. (For orders issued on this subject, see Chief Engineer's letter book, April 23d, page 127). The total foundation excavation, made under this order, amounted to 13,944 cubic yards, for which the contractors were paid $9,456 64 in excess of their regular contract price for rock excavation, or 67 89 cents, nearly, per cubic yard. This work was completed in December and finally inspected by the Chief Engineer on the 23d of said month.

The total volume and value of work is as follows:

Main Channel and river diversion, glacial drift, 35,943 cu. yds. at 19c	$ 6,829 17
Main Channel, solid rock, 647,039 cu. yds. at 59c	381,753 01
Main Channel, concrete retaining wall, 44,811.2 cu. yds. at $3.40	152,358 08
Extra cost of foundation excavation	9,466 64
Back filling, 10,166 cu. yds. glacial drift at 16c	1,626 56
Total cost of W., M., S. & C. contract	$552,033 46
Amount earned and vouchered to January 1, 1897	551,951 45
Amount not vouchered	$ 82 01
Reserved percentage	67,810 60
Balance required to complete	$ 67,892 61

Proportion of work vouchered, 99.99 per cent.

Section No. 15—Controlling Works: Christie & Lowe, Contractors.

Bids for this work were opened on November 20th, 1895 (page 2944), but no final action thereon was had until January 3rd, 1896 (page 3073), when, by a vote of eight for and one against, the report of the Joint Committee on Engineering and Finance, held over from December 24th, 1895 (pages

3042-3), was adopted and the contract awarded to Christie & Lowe. On January 22nd (pages 3105-6), the Chairman of the Committee on Finance presented an amended contract executed by Christie & Lowe, accompanied by a message from the President, setting forth the amendments embodied in the contract as executed, all of which were approved and the bond accepted. On February 13th (page 3202), the Chief Engineer asked, and was granted, authority to employ the Pittsburgh Testing Laboratory to test the material at mills and in shop, on basis of their proposal of 33 cents per ton for each of said inspections.

On July 22nd (page 3444), the Chief Engineer transmitted advertisement and specifications for bear trap dam foundations and collateral work, which were accepted and advertisement ordered (pages 3445-59 inclusive). On August 12th (page 3473), the Chief Engineer asked authority to pay Marsh & Bingham, $97.66 for material for observation towers used in establishing lines upon this work, which was granted. On September 2nd (page 3486), he asked authority to pay Christie & Lowe, $240.35 for erecting observation towers, which request was referred to the Joint Committee on Engineering and Finance, who reported favorably thereon September 23rd (page 3528), when payment was authorized. On September 9th (page 3502), construction voucher in favor of these contractors for $2,502.41 was taken from the list of vouchers reported for payment and referred to the Committee on Finance. On September 23rd (page 3527), this voucher was reported favorably upon and ordered paid. On September 23rd (page 3530), the Clerk was ordered to return unopened the only bid received for bear trap dam foundations, that of Mr. Benezette Williams, and was further ordered to readvertise this work. On October 14th (page 3562), on the recommendation of the Chief Engineer, an effort to arrange with Wright, Meysenburg, Sinclair & Carry to crush stone needed for concrete in bear trap dam foundation, was referred to the Joint Committee on Engineering and Finance, with power to act. On October 21st (page 3570), the said committee reported adversely to the recommendation and their report was adopted. At January 1, 1897, all of the foundations, piers and abutments for the stoney gates, with the iron appertaining thereto, had been completed and all other iron work included in the contract of Christie & Lowe had been delivered at the site of the work.

The rate of progress and amount earned under the contract is as follows:

Contract price for superstructure, above elev., —17.75 C. D.		$ 178,000 00
Foundation excavation, 1,238 cu. yds. solid rock at 59c.		730 42
Concrete below elev. —17.75 C. D., 836.8 cu. yds. at $5.00		4,184 00
Total regular contract		$ 182,914 42
Erection of observation towers		338 01
Caulking sills beneath gates (1 bbl. pitch at $6.00 and 7 bales oakum at $3.25=$22.75)		28 75
Total cost of work as per contract and bills		$ 183,281 18
Amount earned and vouchered to January 1, 1897		123,947 85
Amount not vouchered		$ 59,333 33
Reserved percentage		614 30
Balance required to complete Christie & Lowe contract		$ 59,947 63
Proportion of work vouchered, 67.56 per cent.		
Work not yet under contract:		
Bear trap dam foundations and abutments	$36,630 00	
Iron work bedded in masonry of same	9,244 00	
Closure of retaining wall	3,352 00	
Closure of eight sluice gates	5,892 00	
Total estimated cost		$ 55,118 00
Total balance required to complete		$ 115,065 63

The sum of the known cost ($183,281.18) and the estimated cost of work yet to be done ($55,118.00), makes an aggregate for controlling works and connections of $238,399.18, which sum added to the total of the Wright, Meysenburg, Sinclair & Carry contract for excavation ($552,033.46), gives $790,432.64 as the total cost of section 15.

BRIDGES.

The superstructure for the bridge on Campbell avenue built for the use of the Union Stock Yards and Transit Company (two tracks), The Chicago and Northern Pacific Railway Company (two tracks), and the Pittsburg, Cincinnati, Chicago and St. Louis Railway Company (four tracks),

an eight track through girder, eighty feet long, was built without interruption to the traffic of the railroads, through their co-operation with us and with each other, so that two or more tracks at a time were abandoned to the erectors, until the structure was completed in September. This superstructure is now used in a temporary position and rests upon a timber substructure, but it will become a part of the permanent work. For details relating to it, see this report on section "O". Its cost ($21,393.40), appears against that section, but it will become a credit when transferred to the permanent bridge account.

On June 24th (page 3389), the Chief Engineer submitted a form of advertisement for bids, with specifications for sub and superstructures for two bridges, one for the Southwest Boulevard crossing of the Main Channel, the other for the bridge to be erected for the Elgin, Joliet and Eastern Railroad. These were referred to the Joint Committee on Engineering and Finance, who, on July 1st (page 3396), presented a report in favor of advertising for the work (see pages 3397 to 3420 for specifications, etc.). On September 2nd (page 3495), bids on these structures were received and opened (for details of bids see pages 3496-98). On October 1st (pages 3547-50), the Joint Committee on Engineering and Finance recommended that the substructures for these bridges be awarded to Benezette Williams, and the superstructures to Julius C. Wagner, doing business as the Milwaukee Bridge and Iron Works.

The volume and value of each structure is as follows:

SOUTHWEST BOULEVARD.

Substructure.

Bridge masonry, 2,104 cu. yds. at $6.10	$ 12,834 40	
Concrete, 979 cu. yds. at $6.65	6,510 35	
Piles, 87,010 lineal feet at 25c	2,177 50	
Timber, 92,180 feet B. M., at .026c	2,396 68	
Excavation, 23,388 cu. yds. at 45c	10,524 60	
Total cost of substructure	$ 34,443 53	$ 34,443 53
Amount earned to January 1, 1897	1,782 30	
Unfinished work	$ 32,661 23	
Reserved percentage	222 79	
Balance required to complete	$ 32,884 02	

Superstructure.

Lump sum as per contract		$ 15,200 00
Total cost of bridge, substructure and superstructure		$ 49,643 53

	Per Cent.
Proportion of substructure completed	5.17
Proportion of superstructure completed	0.00
Proportion of entire bridge completed	3.59

ELGIN, JOLIET AND EASTERN RAILROAD.

Substructure.

Bridge masonry, 895.38 cu. yds. at $6.10	$ 5,461 82	
Concrete, 146.46 cu. yds. at $6.95	1,017 90	
	$ 6,479 72	
Less deduction as per contract	85 95	
Cost of regular contract	$ 6,393 77	
False work at Pier No. 4	132 63	
Total cost of substructure	$ 6,526 40	$ 6,526 40
Amount earned and vouchered to January 1, 1897	5,371 95	
Amount not vouchered	$ 1,154 45	
Reserved percentage	671 49	
Balance required to complete	$ 1,825 94	

Superstructure.

Lump sum as per contract		$ 33,477 00
Total cost of bridge, substructure and superstructure		$ 40,003 40

	Per cent.
Proportion of substructure vouchered	80.00
Proportion of superstructure completed	00.00
Proportion of entire bridge completed and vouchered	13.43

Besides these structures, plans have been prepared for the Western Avenue bridge and the several bridges called for in the contract with the Atchison, Topeka and Santa Fe Railway. The probable cost of bridging which must be erected by the Sanitary District, including the capitalization for maintenance, is $1,593,286.25. The estimate for this item of expenditure, reported in 1894, was $1,388,639.32. Since then, the District has had to concede the Southwest Boulevard bridge as a structure independent of the Western Avenue bridge, adding, on the basis of existing contracts, $49,643.53 to the former estimate. That estimate contemplated only six tracks on Campbell

avenue, whereas the Pan Handle settlement is on the basis of four instead of two tracks, which concession adds at least $115,000.00. Then the Elgin, Joliet and Eastern Railroad bridge must also be added, the final contract price of which is $40,003.40. These three items ($204,646.93), added to the 1894 estimate, gives the total shown above. The prices used in the 1894 estimate are higher for iron work than those which now obtain, but the specifications insisted upon by the railroads are so much heavier than those upon which the 1894 estimates were based, that I think the one nearly offsets the other.

The stone used in the Elgin, Joliet and Eastern Railroad substructure was taken from the stock of the District, which was quarried for this use on section 7. Stone from the same stock is to be used in the substructure of the Southwest Boulevard.

The preparation of all bridge plans has been under the direction of Mr. Wm. H. Hughes, Bridge Engineer, whose employment by the District dates from May 1, 1896.

RAILROADS.

The only actual settlement of Right of Way questions consummated by contract within the year, has been with the Atchison, Topeka & Santa Fe Railway Company. The conditions involved in this settlement are fully set forth in the contract, as published in the Proceedings of May 29th (pages 3359-67). The execution of the contract was reported to the Board in a message from President Eckhart on September 2d (page 3484). The work of raising the approaches to the eight-track bridge on Campbell avenue has been accomplished in accordance with the provisions of the contract with the several railroad companies in interest.

NEW WORK.

Under this head is the Chicago River improvement, the general project for which is outlined on page 2774 of the Proceedings. The maps and plans covering this project have been prepared and submitted to the Secretary of War for approval. We are advised that the only objection to the project, as presented, is lodged against the provision made for a swing bridge at Lumber street. Alternative plans have been prepared for that place, but no action has been had upon them.

There has been no change made in the plans for tail race. Several alternative projects for the work necessary to be done through Joliet have been submitted, but final action on them is still pending.

There is nothing to report on the subject of cleaning the North Branch and the South Fork of the South Branch of the Chicago River.

ORGANIZATION.

On January 3d (page 3076), the subject of a reduction of the engineering force was taken up and an order was passed having that end in view. On the same date (page 3077), an amendment to Rule 38, defining the duties of the Chief Engineer, was introduced and referred to the Committee on Rules. On February 5th (page 3143), that Committee reported a substitute for the amendment, which, on motion, was laid over until February 13th (page 3213), when the substitute amendment was adopted.

On January 15th (page 3095), a petition, signed by John R. Walsh, Lyman J. Gage and others, was presented to the Board, requesting that the Chief Engineer be retained in office. The petition was referred to the Committee on Engineering and ordered printed.

On January 29th (page 3132), the Chief Engineer reported the resignation of Mr. Edgar Williams, Principal Assistant Engineer, and recommended that the rank of Principal Assistant Engineer be abolished and the position of Chief Draftsman be created, and Mr. C. H. Hillebrand be appointed to the new position. Mr. Williams' resignation was accepted, and the recommendation referred to the Committee on Rules. On the same date (page 3133), the report of the Committee on Engineering, recommending a reorganization of the Engineering Department, on lines laid down therein, was adopted, and the Chief Engineer instructed to dispense with the services of thirty-six men, who were designated by the Committee. On February 5th (page 3140), the Board, on the recommendation of the Chief Engineer, promoted Sub-Assistant Engineer, W. T. Keating, to the rank of Assistant Engineer. On the same date (page 3142), the Board adopted the report of the Committee on Engineer-

ing, relating to the employment of non-residents on the engineering force. On February 13th (page 3212), at the request of the Chief Engineer, two additional chainmen were allowed. On March 18th (page 3263), on request of the Chief Engineer, authority was given for an office (rent not to exceed $15.00 per month) for the use of the survey party. April 15th (pages 3281-3), the Joint Committee on Engineering and Finance introduced an ordinance, which was adopted, making the notes of gauge readings a final record, and the Chief Engineer the official keeper of the same. On May 4th (page 3319), the usual order was passed for Saturday half holiday, to be observed until October 3, 1896. On May 27th (page 3357), an amendment to Rule 8, increasing the membership of the Committee on Engineering to seven, was laid over. This amendment was adopted June 10th (page 3375). On August 5th (page 3466), a request from the inspectors of masonry was referred to the Committee on Labor, which committee, on August 12th (page 3476), reported adversely to the petitioners, and their report was adopted. On October 21st (page 3571), a resolution, looking to a reduction of the engineering force, was introduced and referred to the Joint Committee on Engineering and Finance. On November 25th (page 3627), an amendment to the rules, which affected all committees and made that of Engineering a Committee of the Whole, was introduced and laid over until December 2nd (page 3640), when it was adopted. On December 2nd (page 3646), Mr. Wenter presented a resolution, which was adopted, commending the Chief Engineer. On December 9th (page 3663), the Chief Engineer reported on the claims of H. J. Bourke and Olaf Hero, late inspectors of masonry, for overtime as presented by their attorney. This report was referred to the Committee on Engineering. On December 16th (page 3676), the Joint Committee on Engineering and Finance reported on the reorganization of the Engineering Department, and their report was adopted, Under the organization perfected early in February, the construction work continued as it was organized at the close of 1895, in three divisions and in charge of the same Assistant Engineers, viz: sections D to O inclusive, known as the Corwith Division, in charge of E. R. Shnable, Assistant Engineer; C to 4, inclusive, known as the Willow Springs Division, in charge of H. B. Alexander, Assistant Engineer; and 5 to 15, inclusive, also including the controlling works, known as the Lockport-Lemont Division, in charge of Chas. L. Harrison, Assistant Engineer. W. T. Keating, Assistant Engineer, was in charge of surveys. Assistant Chief Engineer, T. T. Johnston, has continued in immediate charge of the Division of Drafting and Designing, and has maintained the high standard of work in those departments, besides rendering efficient service and valuable counsel in the work of construction on many occasions when called upon to aid me on that work.

The work of testing sands and cements was continued in this division, and of native cements, 1,235 car loads, or 203,775 barrels, were inspected. Of this number, 69 car loads, or 11,385 barrels, were rejected, leaving 1,166 cars, or 192,390 barrels, accepted. The total number of cars of native cement inspected up to December 31st was 1,792, or 295,680 barrels, of which 1,638 cars, or 270,270 barrels, were accepted. Of this total number, 175,890 barrels have been used in building 282 621 cubic yards of rubble masonry retaining wall, or 622 1000 barrels per cubic yard. The remaining 94,380 barrels were used in building 58,551 cubic yards of concrete, an average of 1 61-100 barrels per cubic yard.

Beside the native cements, 14,900 barrels of Portland cement were inspected, of which 10,900 barrels were accepted.

DIVISION OF RECORDS.

This work is, under the rules, in the immediate charge of the Chief Engineer, and it has been carried on by the Record Clerk, Mr. William Trinkaus, so faithfully and efficiently, that his service is deserving of special mention.

The rules for the regular organization, adopted January 29th (page 3133), provided for 84 men, in addition to the heads of departments. When the season of active work began, the needs of the department increased and inspectors of masonry had to be appointed.

In June, the employes of the pumping plant on section 3 were placed on the roll of the Engineering Department, and in July, the same was done with the employes of the plant on section 14. The force reached its maximum of 210, for the week

ending August 8th. After that time the force diminished, until reduced to 97 men, as shown by the report for the week ending December 26th.

The variety and value of the work done by the several divisions is covered by the monthly reports in the Proceedings, as follows: February 26th (pages 3243-9); March 25th (pages 3268-72); April 22nd (pages 3298-3304); May 27th (pages 3338-44); June 24th (pages 3380-7); July 22nd (pages 3435-41); September 2nd (pages 3487-92); September 23rd (pages 3514-19); October 28th (pages 3575-81); December 2nd (pages 3632-8), and December 30th (pages 3685-90).

The cost of the Engineering Department, from its first organization to December 31, 1896, has been $996,613.68; of this amount $35,052.59 was expended for pumping, and, is therefore, not a proper charge against the department. Exclusive of that charge, the balance of $961,561.09 covers the cost of all surveys, superintendence, tests and inspection, office rents (except the general office), traveling expenses, supplies and every item properly chargeable to the department. This sum is 5.3 per cent, nearly, of the total earnings for construction to December 31, 1896, namely —$18,123,779.52.

MISCELLANEOUS ITEMS FORMING A PART OF THE RECORDS OF THE ENGINEERING DEPARTMENT.

Report on release of contractors' sureties, June 24th (page 3389); President's message, calling attention to increased pollution of water supply, October 1st (page 3533); appointment of committee to consider the question of pollution of water supply, October 1st (page 3537); on Thursday, October 15th, the American Society of Municipal Improvement inspected the Channel, as the guests of the Board (page 3564); November 11th (pages 3589-92), the Chief Engineer submitted a table, showing the final estimates on sections completed at that date, as compared with previous estimates. On the same date (page 3605), Mr. Joseph Downey, Commissioner of Public Works and Chairman of the Commission appointed to investigate the sewage and water supply systems of Chicago, sent in a request for co operation and information on the part of the Sanitary District. This communication was referred to the Special Committee on Pollution of Water Supply, with power to act, and under their advice the Engineering Department supplied all maps and other data asked for by the City Commission.

December 16th (page 3675), the Committee on Finance reported favorably on the payment of vouchers in favor of Jas. R. B. Van Cleave, City Clerk, for copies of ordinances relating to the Chicago River. Proceedings for December 30th (pages 3694 to 3703), contain majority and minority reports of the Finance Committee on the financial needs of the District. One of the exhibits is a report from the Chief Engineer on work done and to be done (pages 3700-1). The importance of this work has continued to attract the attention of the American public, and foreigners have shown unabated interest in it. Among its distinguished visitors from abroad, none are more worthy of mention than Prince Michael Hilkoff, Minister of Ways and Communication of the Russian Empire, who visited the work on October 13th.

I wish in conclusion to reiterate my appreciation of the loyal and efficient services rendered by the men in the confirmed grades whom you have appointed to the work. In the other grades, the rule has been loyalty and good work, the exceptions have in almost every case been dropped from the service; but it is also true that in the reduction of force which has been necessitated by the stage of near completion reached, many excellent and deserving men have been dropped from the rolls.

For the marked consideration and kindness which you, as a Board and as individuals, have shown me, I wish to return my sincere thanks.

Respectfully submitted,

(Signed) ISHAM RANDOLPH,
Chief Engineer."

EXHIBIT A—CHIEF ENGINEER'S REPORT, 1896.

"CHICAGO, January 28th, 1897.

Mr. Isham Randolph, Chief Engineer:

DEAR SIR—I herewith submit the financial statement of the Engineering Department for the year ending December 31st, 1896:

The net total expenditures of this Department for the year amounted to $4,441,-638.22. Of this amount, $215,140.14 was charged to engineering expenses and $4,226,-498.08 was charged to construction account. Of the amount charged to engineering expenses, $35,052.59 was expended on the pumping plants located at sections 3, 4, and 14, and that portion of such amount passed by the Board of Trustees prior to January 1st, 1897, will be found in the annual report of the Clerical Department, under the various pumping plant heads. The remainder, $180,087.55, comes specifically under the head of Engineering Department in the Clerk's report.

The net total expenditures of this Department since its organization amounts to $18,161,402.22. Of this amount, $996,613.68 is charged to engineering expenses and $17,164,783.54 is charged to construction account. The pumping plant charges are included in the engineering expenses, and that portion which has been passed by the Board of Trustees prior to January 1st, 1897, will be found under the different pumping plant heads in the report of the Clerical Department. The remainder of engineering expenses, $961,561.09, comes under the specific head of Engineering Department in the Clerk's report.

To balance the accounts of this Department with those of the Clerk, it is necessary to add the Clerk's exhibit of the Engineering Department's total receipts and to deduct all vouchers not passed by the Board of Trustees prior to January 1st, 1897. The following is a summary:

	Pumping Plants.	*Engineering Expenses.*	*Construction.*
Amount disbursed to January 1st, 1896	.....	$ 781,473 54	$12,938,290 46
Amount disbursed for year 1896	$ 35,052 59	180,087 55	4,226,498 08
Total disursements to January 1st, 1897	$ 35,052 59	$ 961,561 09	$17,164,788 54
By adding the total receipts of the Engineering Department, as per schedule of the Clerk (pages 3773-4 of Proceedings), viz:	.....	7,305 86	81,555 58
	$ 35,052 59	$ 968,866 95	$17,246,344 12
And deducting the unpaid vouchers in the hands of the Clerk, viz:	84 01	351 57	251,751 31
Will show the Clerk's total disbursements of the Engineering Department (pumping plant items grouped) as per schedule on pages 3773-4 of Proceedings	$ 34,968 58	$ 968,515 38	$16,994,592 81

The first of the following tables is a classified statement of engineering expenses (including pumping plant items) for the year 1896; the second is a classified statement of construction expenses for the year 1896, and the third shows the total disbursements for all purposes from the organization of the Engineering Department to December 31st, 1896.

Very respectfully,

(Signed) WILLIAM TRINKAUS,

Record Clerk.

EXHIBIT A, TABLE NO. 1—SANITARY DISTRICT

CLASSIFIED STATEMENT OF ENGINEERING

CLASSIFICATION.	January.	February.	March.	April.	May.
Borings and Test Pits		$ 2 00			
Maps and Plans for general use Sanitary District	$ 1,111 20	639 48	$ 482 82	$ 868 50	$ 434 68
Chicago River Survey	1,275 89	1,034 66	1,283 89	1,295 27	1,119 70
Right of Way	1 77	109 00	225 25	161 15	375 84
Flood Measurements	1,066 91	539 45	395 52	221 85	175 30
Disposal Works at Lockport including Joliet Project	382 90	374 67	477 90	475 45	410 74
Regular Construction—Main Channel and River Diversion	7,872 35	6,485 68	7,196 01	9,197 59	11,951 83
A., T. & S. F. Co's Permanent Bridge over Des Plaines River—Section 8					
A., T. & S. F. Co's Bridge over Main Channel—Section 8					
A., T. & S. F. Co's Bridge over Des Plaines River—Section F					
A., T. & S. F. Co's Bridge over Main Channel—Section G					
A., T. & S. F. Co's Bridge over Main Channel—Section H					
Western Avenue Temporary Bridge and Roadway over Main Channel—Section O		66 67			20 00
Western Avenue Permanent Bridge over Main Channel– Section O					
Southwest Boulevard Bridge over Main Channel—Section O					
Pan Handle R. R. Co's Bridge over Main Channel—Section O		475 00	269 94	285 54	622 80
E., J. & E. R. R. Co's Bridge over Des Plaines River, East of Joliet					
Repairing and Moving Bridges					
Rebuilding Romeo Highway—Section 12					
Mortar, Sand and Cement Tests	300 00	407 47	513 95	978 36	1,017 81
Photographs of Works	125 00	129 85	128 81	138 37	165 73
Public Reports					
Effect of Main Channel Water on Lake Levels	298 50	11 83	5 70	55	
Pumping Plants					
Totals	$12,434 52	$10,275 76	$10,979 79	$13,622 63	$16,294 43

EXHIBIT A, TABLE NO. 2--SANITARY DISTRICT

CLASSIFIED STATEMENT OF CONSTRUCTION

CLASSIFICATION.	January.	February.	March.	April.	May.
Disposal Works at Lockport					
Regular Construction—Main Channel and River Diversion	$177,919 98	$131,511 16	$171,093 30	$257,196 55	$321,356 92
Extra Work—Main Channel					
Levees, Trestles, Embankments, etc	500 00	641 00	653 00	926 31	
Western Avenue Temporary Bridge and Roadway over Main Channel—Section O	300 00				
Southwest Boulevard Bridge over Main Channel—Section O			3,984 54		
Pan Handle R. R. Co's Bridge over Main Channel—Section O					
E., J. & E. R. R. Co's Bridge over Des Plaines River, East of Joliet					
Rebuilding Romeo Highway—Section 12					
Saving of Dimension Stone					
Totals	$178,719 98	$132,152 16	$175,730 84	$258,122 86	$321,356 92

* Includes narrow cut in Main Channel between stations 66+25 and 68, amounting to $3,984.54.

† Includes excavation of dredge pit through Pan Handle Embankment, amounting to $3,726.33; also $21,393.40.

OF CHICAGO—ENGINEERING DEPARTMENT.

EXPENSES FOR THE YEAR 1896.

June.	July.	August.	September.	October.	November.	December.	Totals.
.....	.....	.....	.....	.....	.....	.....	$ 2 00
$ 333 95	$ 253 05	$ 375 50	$ 512 25	$ 373 52	$ 459 37	$ 435 54	6,279 78
932 38	1,333 77	1,460 82	1,205 03	1,503 18	838 56	964 58	14,237 65
376 85	157 60	81 26	30 87	.....	132 30	192 85	1,844 74
175 30	142 35	138 10	137 80	221 80	138 10	114 00	3,492 45
368 60	531 55	1,217 68	393 09	543 34	1,175 45	969 66	7,321 02
12,205 95	13,222 27	13,625 29	12,045 07	11,470 05	9,891 70	7,732 91	122,896 16
.....	.....	.....	275 77	218 60	118 85	15 00	628 26
191 74	106 00	71 10	218 75	165 00	104 89	15 90	873 38
191 74	106 00	71 09	156 25	175 00	69 00	15 00	784 08
191 75	106 00	71 09	.....	75 00	249 00	355 00	1,047 84
191 75	106 00	71 10	4 83	.....	69 03	145 00	587 71
.....	.....	.....	.....	.....	.....	.....	86 67
.....	.....	205 00	218 75	200 29	178 62	232 30	1,034 96
400 00	439 07	364 11	162 82	.....	7 63	50 00	1,423 63
113 42	363 82	25 21	601 00	258 00	.....	.....	3,014 73
323 34	294 25	316 41	168 06	.....	1 52	50 00	1,153 58
.....	.....	.....	.....	.....	150 00	.....	150 00
.....	.....	4 20	100 00	2 14	.....	.....	106 34
1,107 64	1,181 93	1,511 64	1,183 59	1,046 14	969 66	794 17	11,012 36
140 40	138 33	146 55	151 95	136 38	163 45	127 25	1,692 13
1 50	100 00	.....	.....	.....	.....	.....	101 50
.....	.....	.....	.....	.....	.....	.....	316 58
709 62	4,518 21	11,008 39	3,186 67	10,922 71	3,473 89	1,233 10	35,052 59
$ 17,955 99	$23,100 12	$30,764 54	$20,752 52	$27,311 15	$18,180 43	$13,468 26	$215,140 14

OF CHICAGO—ENGINEERING DEPARTMENT.

EXPENSES FOR THE YEAR 1896.

June.	July.	August.	September.	October.	November.	December.	Totals.
$ 1,622 25	.....	.....	$ 2,502 41	$ 59,508 79	.....	$ 59,333 34	$ 122,966 79
351,409 57	$345,946 82	$344,828 08	251,973 00	1,341,285 34	$234,334 46	95,144 30	4,023,999 44
372 44	3,535 00	4,403 59	1,515 14	5,268 47	4,700 00	5,821 65	25,616 29
1,174 98	.....	.....	.....	.....	.....	324 92	4,220 21
1,120 14	.....	557 09	.....	260 32	.....	.....	2,237 56
.....	.....	.....	.....	.....	.....	1,559 51	*5,544 05
....	1,485 31	2,540 77	22,451 31	4,028 62	777 96	4,189 36	135,473 36
.....	.....	.....	.....	.....	3,055 94	1,644 52	4,700 46
.....	.....	.....	.....	522 51	738 41	471 80	1,732 72
.....	.....	.....	7 20	.....	.....	.....	7 20
$355,699 38	$350,967 13	$352,329 53	$278,449 06	$1,410,874 05	$243,606 77	$168,489 40	$4,226,498 08

erection of approach span to eight-track bridge account of Pan Handle permanent bridge, amounting to

EXHIBIT A, TABLE NO. 3—SANITARY DISTRICT OF CHICAGO—ENGINEERING DEPARTMENT.

CLASSIFIED STATEMENT OF DISBURSEMENTS FROM DATE OF ORGANIZATION TO DEC. 31st, 1896.

CLASSIFICATION.	DISBURSEMENTS TO DEC. 31, 1895.		DISBURSEMENTS FOR 1896.		TOTALS.	
	Engineering.	Construction	Engineering.	Construction	Engineering.	Construction
Preliminary Sundries	$120,633 75				$120,633 75	
Locating Route Main Channel	32,222 94				32,222 94	
Borings and Test Pits	17,459 50		$ 2 00		17,461 50	
Maps and Plans for General Use of Sanitary District	39,444 93		6,279 78		45,724 71	
Chicago River Survey	36,562 49		14,237 65		50,800 14	
Right of Way	20,826 60		1,844 74		22,671 34	
Flood Measurements	19,816 86		3,492 45		23,309 31	
Disposal Works at Lockport including Joliet Project	24,956 01		7,321 02	$ 122,966 79	32,277 03	$ 122,966 79
Regular Construction—Main Channel and River Diversion	350,784 89	$12,290,755 30	122,896 16	4,023,999 44	473,681 05	16,314,754 74
Extra Work—Main Channel		13,455 51		25,616 29		39,071 80
Extra Work—River Diversion	9,723 42	333,574 23			9,723 42	333,574 23
Levees, Trestles, Embankments, etc	1,013 75	198,089 96		4,220 21	1,013 75	202,310 17
Spillway	1,754 91	20,518 41			1,754 91	20,518 41
Towpath	5,246 04				5,246 04	
Western Stone Co's Bridge over Des Plaines River—Section 10	1,157 05	19,029 05			1,157 05	19,029 05
Stephens Street Bridge over Des Plaines River—Section 8	985 66	22,329 89			985 66	22,329 89
A., T. & S. F. R. R. Co's Temporary Bridge over Des Plaines River—Section 8	770 72	18,738 80			770 72	18,738 80
A., T. & S. F. R. R. Co's Permanent Bridge over Des Plaines River—Section 8			628 26		628 26	
A., T. & S. F. R. R. Co's Bridge over Main Channel—Section 8			873 38		873 38	
Mt. Forest Foot Bridge over Illinois and Michigan Canal—Section A	32 17				32 17	
A., T. & S. F. R. R. Co's Bridge over Des Plaines River—Section F			784 08		784 08	
A., T. & S. F. R. R. Co's Bridge over Main Channel—Section G			1,047 84		1,047 84	
A., T. & S. F. R. R. Co's Bridge over Main Channel—Section N			587 71		587 71	
Western Ave. Temporary Bridge and Roadway over Main Channel—Section O	66 30	2,035 45	86 67	2,237 56	152 97	4,273 05
Western Ave. Permanent Bridge over Main Channel—Section O			1,034 96		1,034 96	
Southwest Boulevard Bridge over Main Channel—Section O			1,423 63	5,544 05	1,423 63	* 5,544 05
Pan Handle R. R. Co's Bridge over Main Channel—Section O			3,014 73	35,473 36	3,014 73	†35,473 36
E., J. & E. R. R. Co's Bridge over Des Plaines River, East of Joliet			1,153 58	4,700 46	1,153 58	4,700 46
Repairing and Moving Bridges	1,050 13	7,756 19	150 00		1,200 13	7,756 19
Rebuilding Romeo Highway on Section 12			106 34	1,732 72	106 34	1,732 72
Office Building at Sag	2,339 43				2,339 43	
Saving of Building Sand		781 63				781 63
Mortar, Sand and Cement Tests	8,994 23		11,012 36		20,006 59	
Saving of Dimension Stone		11,226 00		7 20		11,233 20
Erosion Tests	1,496 75				1,496 75	
Temporary Sanitary Relief	237 60				237 60	
Photographs of Works	4,046 42		1,692 13		5,738 55	
Public Reports	1,138 14		101 50		1,239 64	
Remeasurement of Main Channel	5,283 82				5,283 82	
Effect of Main Channel Water on Lake Levels	1,481 80		316 58		1,798 38	
General Account	71,947 23				71,947 23	
Pumping Plants			35,052 59		35,052 59	
Totals	$781,473 54	$12,938,290 46	$215,140 14	$4,226,498 08	$996,613 68	$17,164,788 54

* Includes narrow cut in Main Channel, between Stations 66+25 and 68, amounting to $3,984.54.

† Includes excavation of dredge pit through Pan Handle embankment, amounting to $3,736.33; also erection of approach span to 8-track bridge account of Pan Handle permanent bridge, amounting to $21,393.40.

EXHIBIT B, TABLE NO. 1.

CHIEF ENGINEER'S REPORT- 1896.

See Next Page.

EXHIBIT B.

Detailed Revised Estimate of January 1, 1897,

Section.	DESIGNATION.	CUBIC YARDS—REGULAR CONTRACTS.			
		Main Channel.			*River Di*
		Glacial Drift.	Solid Rock.	Retaining Wall.	Glacial Drift.
O	Main Channel	1,504,736			
	Collateral Channel	132,009			
	Surface Ditches	12,000			
	Temporary Bridge and Roadway at Western Avenue				
	Narrow Cut in Main Channel, bet. Stations 66+25 and 68				
	Dredge Pit through Panhandle Embankment				
	Temporary Panhandle Bridge				
	Totals for Section	1,648,745			
N	Main Channel	1,105,443			
	Surface Ditches	8,400			
	Totals for Section	1,113,843			
M	Main Channel	717,650			
	Surface Ditches	1,986			
	Slides	8,544			
	Final Grand Totals	728,180			
L	Main Channel	1,094,081			
	Surface Ditches	3,145			
	Slides	9,913			
	Totals for Section	1,107,139			
K	Main Channel	1,147,753			
	Surface Ditches	4,800			
	Slides	28,031			
	Drainage Boxes				
	Totals for Section	1,180,584			
I	Main Channel	1,131,649			
	Surface Ditches	6,505			
	Slides	21,230			
	Final Grand Totals	1,159,384			
H	Main Channel	1,073,645			
	Surface Ditches	3,454			
	Slides	15,113			
	Totals for Section	1,092,212			
G	Main Channel	1,355,844			
	Surface Ditches	7,676			
	Extra Width	221			
	Draining Impounded Water				
	Totals for Section	1,363,741			
F	Ricker, Lee & Co	497,763			
	Surface Ditches	1,147			
	River Diversion				65,308
	Ditches				1,606
	Levee Borrow				91,320
	Totals for Ricker, Lee & Co	498,910			158,234
	Weir, McKechney & Co	589,199			
	Main Channel		16,724		
	Spillway Construction—				
	Including 4,713 cu. yds. of excavation				
	Excavation near Spillway—				
	16,500 cu. yds. approximately				
	Raising Santa Fe Bridge				
	Totals for Section	1,088,109	16,724		158,234

TABLE NO. 1.

For Summary of Values by Sections, see Page 69.

version.	Price.	VALUES—REGULAR CONTRACTS.					VALUES—COLLATERAL CONTRACTS.
		Main Channel.			*River Diversion.*		
Solid Rock.		Glacial Drift.	Solid Rock.	Retaining Wall.	Glacial Drift.	Solid Rock.	
	$ 0.21	$ 315,994 56					
	.199	26,269 79					
	.21	2,520 00					
							$ 4,273 05
							3,984 54
							4,258 66
							13,933 78
		$ 344,784 35					$ 26,450 03
	$ 0.23	$ 254,251 89					
	.23	1,932 00					
		$ 256,183 89					
	$ 0.217	$ 155,730 05					
	.217	430 96					
	.217	1,854 05					
		$ 158,015 06					
	$ 0.197	$ 215,533 96					
	.197	619 56					
	.197	1,952 86					
		$ 218,106 38					
	$ 0.25	$ 286,938 25					
	.25	1,200 00					
	.25	7,007 75					
							$ 41 79
		$ 295,146 00					$ 41 79
	$ 0.25	$ 282,912 25					
	.25	1,626 25					
	.25	5,307 50					
		$ 289,846 00					
	$ 0.29	$ 311,357 05					
	.29	1,001 66					
	.29	4,382 77					
		$ 316,741 48					
	$ 0.28	$ 379,636 32					
	.28	2,149 28					
	.28	61 88					
							$ 324 92
		$ 381,847 48					$ 324 92
	$ 0.23¾	$ 118,218 71					
	.23¾	272 41					
	.23¾				$ 15,510 65		
	.23¾				381 43		
	.23¾				21,688 50		
		$ 118,491 12			$ 37,580 58		
	$ 0.29½	$ 173,813 71					
	.90		$ 15,051 60				
	.699						$ 20,518 41
	.7062						11,653 09
							5,875 65
		$ 292,304 83	$ 15,051 60		$ 37,580 58		$ 38,047 15

EXHIBIT B, TABLE

Section.	DESIGNATION.	CUBIC YARDS—REGULAR CONTRACTS.			
		Main Channel.			*River Di*
		Glacial Drift.	Solid Rock.	Retaining Wall.	Glacial Drift.
E	Streeter & Kenefick	467,640			
	River Diversion				68,769
	Borrow Pits for Levee				21,385
	River Diversion Ditches				5,566
	Overhaul—				
	9,641 cu. yds. Glacial Drift				
	Summit Highway				
	Total of Streeter & Kenefick	467,640			95,720
	Angus & Gindele	1,344,211			
	Surface Ditches	4,979			
	Solid Rock		78,765		
	Totals for Section	1,816,830	78,765		95,720
D	Main Channel	1,908,965			
	Surface Ditches	5,203			
	Main Channel		100,000		
	Raising Calumet Terminal Bridge				
	Pile Trestle				
	Totals for Section	1,914,168	100,000		
C	Main Channel	1,850,399			
	Muck Berm	26,641			
	Surface Ditches	7,416			
	River Diversion				162,537
	Building Sand—				
	6,253 cu. yds. excavation				
	Raising Illinois and Michigan Canal Spoil Bank				
	Totals for Section	1,884,456			162,537
B	Main Channel	1,549,000			
	Main Channel		15,000		
	River Diversion				212,486
	Raising Illinois and Michigan Canal Bank				
	Revetting Levee—				
	2,000 cu. yds				
	Totals for Section	1,549,000	15,000		212,486
A	Main Channel	2,576,508			
	Main Channel		4,188		
	River Diversion				128,425
	Completing Levee—				
	87,361 cu. yds. Glacial Drift				
	Overhaul Levee Material—				
	50,893 cu. yds				
	Muck, Desplaines River—				
	122,342 cu. yds				
	Levee Trestle—				
	4,400 ft				
	Raising Illinois and Michigan Canal Bank				
	Extra Depth River Diversion—				
	21,225 cu. yds				
	Flood Damages, Illinois and Michigan Canal				
	Removing Hard Material, Desplaines River				
	Removing Hydraulic Dredge				
	Revetting Muck Levee—				
	5,520 cu. yds				
	Totals for Section	2,576,508	4,188		128,425
1	Alfred Harlev	109,540			
	Alfred Harlev				5,876
	Heldmaier & Neu	11,926			
	Griffiths & McDermott	1,144,000			
	Griffiths & McDermott		550,000		
	Retaining Wall			66,700	

NO. 1—*Continued.*

version.	Price.	VALUES—REGULAR CONTRACTS.					VALUES—COLLATERAL CONTRACTS.
		Main Channel.			*River Diversion*		
Solid Rock.		Glacial Drift.	Solid Rock.	Retaining Wall.	Glacial Drift.	Solid Rock.	
	$ 0.27½	$ 128,601 00					
	.27½				$ 18.911 47		
	.27½				5,880 88		
	.27½				1,530 67		
	.26755						$ 2,579 45
							190 01
		$ 128,601 00			$ 26,323 00		$ 2,769 46
	$ 0.27	$ 362,936 97					
	.27	1,344 33					
	.70		$ 55,135 50				
		$ 492,882 30	$ 55,135 50		$ 26,323 00		$ 2,769 46
	$ 0.26 7-16	$ 504,682 62					
	.26 7-16	1,375 54					
	.92½		$ 92,500 00				
							$ 1,880 54
							1,000 00
		$ 506,058 16	$ 92,500 00				$ 2,880 54
	$ 0 23½	$ 434.843 76					
	.23½	6.260 64					
	.23½	1,742 76					
	.23½				$ 38,196 19		
	.12½						$ 781 63
							579 08
		$ 442,847 16			$ 38,196 19		$ 1,360 71
	$ 0.27	$ 418.230 00					
	.95		$ 14,250 00				
	.27				$ 57,371 22		
							$ 1,680 12
	.20						400 00
		$ 418,230 00	$ 14,250 00		$ 57,371 22		$ 2,080 12
	$ 0.30⅝	$ 789,055 58					
	.80		$ 3,350 40				
	.30⅝				$ 39,330 16		
	.36						$ 31,449 96
	.20						10,178 60
	.15						18,351 30
	1.954						8,597 35
							5,888 63
	.30⅝						6,500 16
							847 40
							285 60
							220 60
	.15						838 00
		$ 789,055 58	$ 3,350 40		$ 39,330 16		$ 83,147 60
	$ 0.27	$ 29,575 80					
	.27				$ 1,586 52		
	.30⅝	3.652 34					
	.429	490,776 00					
	.80		$ 440,000 00				
	2.90			$ 193,430 00			

EXHIBIT B, TABLE

CUBIC YARDS—REGULAR CONTRACTS.

Section.	DESIGNATION.	Main Channel.			River Di
		Glacial Drift.	Solid Rock.	Retaining Wall.	Glacial Drift.
1	Slope Paving—				
	1,285 cu. yds.				
	River Diversion, Force Account—				
	158,617 cu. yds. Glacial Drift				
	River Improvement, Force Account—				
	10,162 cu. yds. Glacial Drift				
	Overhaul to Section A—				
	164,051 cu. yds. Glacial Drift				
	Willow Springs Road, Force Account				
	Raising Spoil Bank Levee, Force Account				
	Clearing Land on River Improvement				
	Willow Springs Road, Force Account				
	Dyke at Columbia Park				
	Raising I. & M. Canal Levee, Force Account				
	Removing Dam in River				
	Repairing Columbia Park Buildings				
	Hay for Repairing Levee				
	Totals for Section	1,265,465	550,000	66,700	5,876
2	McArthur Bros.	29,675			
		691,925			
			477,300		
				38,580	
					29,516
	River Diversion, Force Account—				
	89,718 cu. yds. Glacial Drift				
	Totals for Section	721,600	477,300	38,580	29,516
3	McArthur Bros.	73,310			
	Gilman & Co	352,395			
	Main Channel Prism		755,771		
	Scabbling for Retaining Wall Foundation		5,007		
	Retaining Wall			14,039	
	Final Totals for Section	425,705	760,778	14,039	
4	McArthur Bros.	48,593			
		1,048,153			
			262,428		
				68,169	
	River Diversion, Force Account—				
	106,803 cu. yds. Glacial Drift				
	River Diversion, Force Account—				
	17,857 cu. yds. Solid Rock				
	Totals for Section	1,096,746	262,428	68,169	
5	Qualey Construction Company	918,000			
			376,100		
				54,629	
	Overhaul—				
	668,700 cu. yds. Glacial Drift				
	Repairing Break in Retaining Wall—				
	15,000 cu. yds. Glacial Drift				
	1,300 cu. yds. Scabbling				
	2,000 cu. yds. Wall				
	River Diversion, Force Account—				
	12,256 cu. yds. Glacial Drift				
	Removing Spoil Bank—				
	16,671 cu. yds. Glacial Drift				
	Rip-rap on Levee—				
	500 cu. yds.				
	Cutting Narrow Rock Channel				
	Totals for Section	918,000	376,100	54,629	
6	Vivian & Co	24,100			
	Mason, Hoge & Co	659,148			
	Main Channel Prism		545,873		
	Scabbling for Retaining Wall Foundation		3,482		
	Retaining Wall			30,361.7	

NO. 1—*Continued.*

version.	Price.	VALUES—REGULAR CONTRACTS.					VALUES—COLLATERAL CONTRACTS.
		Main Channel.			*River Diversion.*		
Solid Rock.		Glacial Drift.	Solid Rock.	Retaining Wall.	Glacial Drift.	Solid Rock.	
.....	$ 0.60	.....	.....	$ 771 00	.....	.....	.....
.....	.8653	.....	.....	.....	.....	.....	$ 137,254 90
.....	.42	.....	.....	.....	.....	.....	4,268 04
.....	.20	.....	.....	.....	.....	.....	32,810 20
.....	.....	.....	.....	.....	.....	.....	1,719 86
.....	.....	.....	.....	.....	.....	.....	1,044 05
.....	.....	.....	.....	.....	.....	.....	504 41
.....	.....	.....	.....	.....	.....	.....	778 22
.....	.....	.....	.....	.....	.....	.....	300 00
.....	.....	.....	.....	.....	.....	.....	241 57
.....	.....	.....	.....	.....	.....	.....	210 00
.....	.....	.....	.....	.....	.....	.....	30 00
.....	.....	.....	.....	.....	.....	.....	10 50
.....	.....	$ 524,004 14	$ 440,000 00	$ 194,201 00	$ 1,586 52	.....	$ 179,171 75
.....	$ 0.28	$ 8,309 00	.....	.....	.....	.....	.....
.....	.50	345,962 50	.....	.....	.....	.....	.....
.....	.80	.....	$ 381,840 00	.....	.....	.....	.....
.....	3.50	.....	.....	$ 135,030 00	.....	.....	.....
.....	.28	.....	.....	.....	$ 8,264 48	.....	.....
.....	.6131	.....	.....	.....	.....	.....	$ 55,005 68
.....	.....	$ 354,271 50	$ 381,840 00	$ 135,030 00	$ 8,264 48	.....	$ 55,005 68
.....	$ 0 27	$ 19,793 70	.....	.....	.....	.....	.....
.....	.56	197,341 20	.....	.....	.....	.....	.....
.....	.76	.....	574,385 96	.....	.....	.....	.....
.....	.76	.....	3,805 32	.....	.....	.....	.....
.....	3.25	.....	.....	$ 45,626 75	.....	.....	.....
.....	.....	$ 217,134 90	$ 578.191 28	$ 45,626 75	.....	.....	.....
.....	$ 0.27	$ 13.120 11	.....	.....	.....	.....	.....
.....	.49	513,594 97	.....	.....	.....	.....	.....
.....	.80	.....	$ 209.942 40	.....	.....	.....	.....
.....	3.50	.....	.....	$ 238,591 50	.....	.....	.....
.....	.502	.....	.....	.....	.....	.....	$ 79,910 23
.....	1.47.2	.....	.....	.....	.....	.....	
.....	.....	$ 526,715 08	$ 209,942 40	$ 238.591 50	.....	.....	$ 79.910 23
.....	$ 0.27	$ 247,860 00	.....	.....	.....	.....	.....
.....	.735	.....	$ 276,433 50	.....	.....	.....	.....
.....	3.25	.....	.....	$ 177,544 25	.....	.....	.....
.....	.04	$ 26,748 00	.....	.....	.....	.....	.....
.....	.50	.....	.....	.....	.....	.....	$ 14,955 50
.....	.73½	.....	.....	.....	.....	.....	
.....	3.25	.....	.....	.....	.....	.....	
.....	.5097	.....	.....	.....	.....	.....	6,246 54
.....	.27	.....	.....	.....	.....	.....	4,501 17
.....	.70	.....	.....	.....	.....	.....	350 00
.....	.....	.....	.....	.....	.....	.....	700 00
.....	.....	$ 274,608 00	$ 276.433 50	$ 177,544 25	.....	.....	$ 26,753 21
.....	$ 0.22	$ 5,302 00	.....	.....	.....	.....	.....
.....	.27	177.969 96	.....	.....	.....	.....	.....
.....	.73½	.....	$ 401,216 66	.....	.....	.....	.....
.....	73½	.....	2,559 27	.....	.....	.....	.....
.....	3.25	.....	.....	98,675 52	.....	.....	.....

EXHIBIT B, TABLE

Section.	DESIGNATION.	CUBIC YARDS—REGULAR CONTRACTS.			
		Main Channel.			*River Di*
		Glacial Drift.	Solid Rock.	Retaining Wall.	Glacial Drift.
6	River Diversion				118,647
	Embankment—				
	24,701 cu. yds. Glacial Drift				
	Rip-rap on Levee—				
	4,593 cu. yds				
	Hard Material on Levee—				
	14,938 cu. yds				
	Raising Levee—				
	2,707 cu. yds				
	Supppressing Fires on Levee				
	Concrete under Retaining Wall				
	Final Totals for Section	683,248	549,355	30,361.7	118,647
7	Main Channel	181,721			
	Main Channel Prism		888,578		
	Scabbling for Retaining Wall Foundation		2,361		
	Retaining Wall			6,179.9	
	River Diversion				97,917
	River Diversion				
	Quarrying Dimension Stone, 8,358 cu. yds				
	Embankment, 3,517 cu. yds. Glacial Drift				
	Raising Levee, 1,466 cu. yds. Glacial Drift				
	Rip-rap, 4,277 cu. yds				
	Earth Core				
	Force Account, Raising Levee				
	Suppressing Fires on Levee				
	Piling Dimension Stone				
	Tearing Down and Rebuilding Retaining Wall				
	Raising Levee, Extra Appropriation				
	Hard Material on Levee, 4,000 cu. yds				
	Final Totals for Section	181,721	890,93?	6,179.9	97,917
8	Main Channel Prism	43,578			
	Approaches to Stephens Street Bridge	6,592			
	Main Channel Prism		1,160,190		
	Scabbling for Retaining Wall		723		
	Retaining Wall			2,874.9	
	River Diversion				57,902
	River Diversion				
	Roadway and River Diversion Bridges				
	Moving Cable Towers				
	Agnew & Co.'s Claims				
	Quarrying Dimension Stone, 1,370 2-10 cu. yds				
	Building Trestle, Main Channel				
	Stephens Street Improvements				
	Moving Telegraph Line				
	Replacing Right of Way Fence				
	Tunnel and Open Cut under A., T. & S. F. R. R. Tracks, including 121 1-10 cu. yds. Rock				
	Totals for Section	50,170	1,160,913	2,874.9	57,902
9	Main Channel Prism	75,635			
	Approaches to Temporary Bridge	1,057			
	Main Channel Prism		1,003,769		
	River Diversion				40,763
	River Diversion				
	Agnew & Co.'s Claims				
	Building Trestle, Main Channel				
	Final Totals for Section	76,692	1,003,769		40,763
10	Main Channel Prism	31,074			
	Western Stone Company's Roadbed	669			
	Main Channel		1,141,890		
	River Diversion				30,313
	River Diversion				
	River Diversion Levee, Force Account				
	Roadway and River Diversion Bridge				
	Tracks at Quarry No. 5				
	Maintaining Western Stone Company's Tracks				

NO. 1—*Continued.*

version.	Price.	VALUES—REGULAR CONTRACTS.					VALUES—COLLATERAL CONTRACTS.
		Main Channel.			*River Diversion*		
Solid Rock.		Glacial Drift.	Solid Rock.	Retaining Wall.	Glacial Drift.	Solid Rock.	
.....	$ 0.27	.....	.....	.....	$ 32,034 69	.....	.....
.....	.65	.....	.....	.....	.....	.....	$ 16,055 65
.....	.63	.....	.....	.....	.....	.....	2,893 59
.....	.25	.....	.....	.....	.....	.....	3,734 50
.....	.27	.....	.....	.....	.....	.....	730 89
.....	.....	.....	.....	.....	.....	.....	462 05
.....	.....	.....	.....	.....	.....	.....	558 59
.....	.....	$ 183,271 96	$ 403,775 93	$ 98,675 52	$ 32,034 69	.....	$ 24,435 27
.....	$ 0.26	$ 47,247 46	.....	.....	.....	.....	.....
.....	.73½	.....	$ 653,104 83	.....	.....	.....	.....
.....	.73½	.....	1,735 34	.....	.....	.....	.....
.....	3.25	.....	.....	$ 20,084 67	.....	.....	.....
.....	.26	.....	.....	.....	$ 25,458 42	.....	.....
43,102	.73½	.....	.....	.....	.....	$ 31,679 97	.....
.....	1.00	.....	.....	.....	.....	.....	$ 8,358 00
.....	.65	.....	.....	.....	.....	.....	2,286 05
.....	.26	.....	.....	.....	.....	.....	381 16
.....	.63	.....	.....	.....	.....	.....	2,694 51
.....	.....	.....	.....	.....	.....	.....	2,000 00
.....	.....	.....	.....	.....	.....	.....	1,000 00
.....	.....	.....	.....	.....	.....	.....	693 08
.....	.....	.....	.....	.....	.....	.....	400 00
.....	.....	.....	.....	.....	.....	.....	372 44
.....	.....	.....	.....	.....	.....	.....	2,800 00
.....	.25	.....	.....	.....	.....	.....	1,000 00
43,102	.....	$ 47,247 46	$ 654,840 17	$ 20,084 67	$ 25,458 42	$ 31,679 97	$ 21,985 24
.....	$0.26	$ 11,330 28	.....	.....	.....	.....	.....
.....	.26	1,713 92	.....	.....	.....	.....	.....
.....	.74¾	.....	$ 867,242 03	.....	.....	.....	.....
.....	.74¾	.....	540 44	.....	.....	.....	.....
.....	3.25	.....	.....	$ 9,343 43	.....	.....	.....
.....	.26	.....	.....	.....	$ 15,054 52	.....	.....
99,399	.74¾	.....	.....	.....	.....	$ 74,300 75	.....
.....	.....	.....	.....	.....	.....	.....	$ 40,868 39
.....	.....	.....	.....	.....	.....	.....	2,992 15
.....	.....	.....	.....	.....	.....	.....	2,000 00
.....	1.00	.....	.....	.....	.....	.....	1,370 20
.....	.....	.....	.....	.....	.....	.....	966 37
.....	.....	.....	.....	.....	.....	.....	1,000 00
.....	.....	.....	.....	.....	.....	.....	487 58
.....	.....	.....	.....	.....	.....	.....	222 02
.....	1.50	.....	.....	.....	.....	.....	733 65
99,399	.....	$ 13,044 20	$ 867,782 47	$ 9,343 43	$ 15,054 52	$ 74,300 75	$ 50,640 36
.....	$0.26	$ 19,665 10	.....	.....	.....	.....	.....
.....	.26	274 82	.....	.....	.....	.....	.....
.....	.769	.....	$ 771,898 36	.....	.....	.....	.....
.....	.26	.....	.....	.....	$ 10,598 38	.....	.....
16,873	.769	.....	.....	.....	.....	$ 12,975 34	.....
.....	.....	.....	.....	.....	.....	.....	3,000 00
.....	.....	.....	.....	.....	.....	.....	1,012 30
16,873	.....	$ 19,939 92	$ 771,898 36	.....	$ 10,598 38	$ 12,975 34	$ 4,012 30
.....	$0.25	$ 7,768 50	.....	.....	.....	.....	.....
.....	.25	167 25	.....	.....	.....	.....	.....
.....	.80	.....	$ 913,512 00	.....	.....	.....	.....
.....	.25	.....	.....	.....	$ 7,578 25	.....	.....
58,276	.80	.....	.....	.....	.....	$ 46,620 80	.....
.....	.....	.....	.....	.....	.....	.....	$ 24,063 17
.....	.....	.....	.....	.....	.....	.....	15,983 63
.....	.....	.....	.....	.....	.....	.....	3,120 89
.....	.....	.....	.....	.....	.....	.....	2,995 01

EXHIBIT B, TABLE

Section.	DESIGNATION.	CUBIC YARDS—REGULAR CONTRACTS. Main Channel. Glacial Drift.	Solid Rock.	Retaining Wall.	River Di Glacial Drift.
	Protection Levee at Quarry No. 5				
	Removing Western Stone Company's Tracks				
	Changing Western Stone Company's Tracks				
10	Building Stairway, Main Channel				
	Removing Stairway and Platform				
	Repairing Break in Illinois and Michigan Canal				
	Repairing Levee				
	Final Totals for Section	31,743	1,141,890		30,313
	Main Channel	44,021			
	Main Channel		989,711		
	River Diversion				5,834
	River Diversion				
	Core for Levee				
	River Diversion, Force Account—				
11	6,865 cu. yds. Glacial Drift				
	4,409 cu. yds. Solid Rock				
	Extra Work on Levee				
	Appropriation for Raising Levee				
	Extra Work, Channeling Machine				
	Final Totals for Section	44,021	989,711		5,834
	Main Channel Prism	29,309			
	Bridge Approaches	12,470			
	Temporary Road	1,619			
	Side Pockets	632			
	Main Channel Prism		978,183		
	Main Channel Side Pockets		20,526		
	Dry Rubble Retaining Wall			17.44	
	Cement Rubble Retaining Wall			9,269.5	
12	River Diversion				11,739
	Draining Goose Lake, 7,475 cu. yds. Solid Rock				
	Core for Levee				
	Building Trestle, Main Channel				
	Completing Temporary Roadway at Romeo				
	Repairing Romeo Trestle				
	Highway Crossing at Romeo				
	Romeo Highway, "Dan'l Sullivan"				
	Final Totals for Section	44,030	998,709	9,286.94	11,739
	Main Channel Prism	33,037			
	Main Channel Side Pockets	773			
	Main Channel Prism		1,008,475		
13	Main Channel Side Pockets		25,190		
	Main Channel			10,838	
	Final Totals for Section	33,810	1,033,665	10,838	
	Main Channel Prism	167,046			
	Main Channel Prism	212,774			
	Main Channel Side Pockets	345			
	Main Channel Prism		1,013,396		
	Main Channel Side Pockets		3,029		
14	Excavation for Retaining Wall Foundation		8,400		
	Retaining Wall			23,500	
	Backfilling, 95,000 cu. yds				
	Totals for Section	380,165	1,024,825	23,500	
	Main Channel Prism	35,180			
	Retaining Wall Foundations	144			
	Main Channel Prism		631,495		
	Retaining Wall Excavation for Foundation		15,544		
15	Retaining Wall			44,811.2	
	River Diversion				619
	Raising East Levee, 10,166 cu. yds				
	Extra Cost for Foundation Excavations, 13,944 cu. yds. Solid Rock				

NO. 1—*Continued.*

version.	Price.	VALUES—REGULAR CONTRACTS. *Main Channel.*			*River Diversion.*		VALUES—COLLATERAL CONTRACTS.
Solid Rock.		Glacial Drift.	Solid Rock.	Retaining Wall.	Glacial Drift.	Solid Rock.	
							$ 1,400 58
							632 44
							267 15
							59 35
							27 33
							7 04
							75 27
58,276		$ 7,935 75	$ 913,512 0(		$ 7,578 25	$ 46.620 80	$ 48,631 86
	$ 0.30¼	$ 13,316 35					
	.79¼		$ 784,345 97				
	.30¼				$ 1,764 79		
11,268	.79¼					$ 8,929 89	
							$ 17,907 10
	.708						
	2.098						14,113 82
							1,138 82
							1,000 00
							55 18
11,268		$ 13,316 35	$ 784,345 97		$ 1,764 79	$ 8,929 89	$ 34,214 92
	$ 0.30¼	$ 8.865 97					
	.30¼	3,772 17					
	.30¼	489 75					
	.30¼	191 18					
	.79¼		$ 775.210 03				
	.79¼		16,266 8(				
	1.66			$ 28 9(			
	3.50			32.443 2(			
	.30¼				$ 3,551 05		
	1.196						$ 8,942 88
							7,541 87
							910 44
							300 00
							56 12
							23 18
							1,732 72
		$ 13,319 07	$ 791,476 8(	$ 32.472 2(	$ 3,551 05		$ 19,507 21
	$ 0.26	$ 8,589 62					
	.26	200 98					
	.74¾		$ 753.835 0(				
	.74¾		18,829 5(				
	3.50			$ 37,933 00			
		$ 8,790 60	$ 772,664 5(	$ 37,933 00			
	$ 0·20	$ 33,409 20					
	.36	76,598 64					
	.36	124 20					
	.73		$ 739,779 0(				
	.73		2.211 1(				
	.38		3,192 0(				
	2.74			$ 64,390 00			
	.14			13,200 0(			
		$ 110,132 04	$ 745,182 2(	$ 77,690 0(			
	$ 0.19	$ 6,684 20					
	.19	27 36					
	.59		$ 372,582 0(				
	.59		9,170 9(				
	3.40			$ 152,358 08			
	.19				$ 117 61		
	.16	1,626 56					
							$ 9,466 64

EXHIBIT B. TABLE

Section.	DESIGNATION.	CUBIC YARDS—REGULAR CONTRACTS.			
		Main Channel.			*River Di*
		Glacial Drift.	Solid Rock.	Retaining Wall.	Glacial Drift.
15	Controlling Works Proper				
	Solid Rock Excavation		1,238		
	Concrete, 836.8 cu. yds				
	Total for Controlling Works				
	Totals for Section	35,324	648,277	44,811.2	619
	Below Section 15— Work at Hyde's Mill and Dam No. 1				
	Grand Totals	26,211,340	12,083,336	369,969.64	1,156,528

*Section 15—The total contract price for this work is as shown above, $182,914.42. This covers foun

EXHIBIT B. TABLE

Detailed Estimate of Contracts for

DESIGNATION.	CUBIC YARDS—REGULAR CONTRACTS.					PRICE.
	Masonry, Cu. Yds.	Excavat'n. Cu. Yds.	Piles, Lin. Ft.	Timber, Ft. B. M.	Concrete, Cu. Yds.	
Pan Handle Bridge— Extra Superstructure						
Southwest Boulevard Bridge—						
Masonry	2,104					$ 6.10
Excavation		23,388				.45
Piles			87,010			.25
Timber				92,180		.026
Concrete					979	6.65
Totals, Substructure	2,104	23,388	87,010	92,180	979	
Total, Superstructure						
Totals, Sub and Superstructure	2,104	23,388	87,010	92,180	979	
Elgin, Joliet & Eastern R. R. Bridge—						
Masonry	895.38					$ 6.10
Concrete					146.40	6.95
False Work at Pier No. 4						
Totals, Substructure	895.38				146.40	
Agreed Reduction						
Total, Superstructure						
Totals, Sub and Superstructure	895.38				146.40	
Grand Totals	2,999.38	23,388	87,010	92,180	1,125.40	

NO. 1—*Continued.*

version.	Price.	VALUES—REGULAR CONTRACTS.					VALUES—COLLATERAL CONTRACTS.
		Main Channel.			*River Diversion.*		
Solid Rock.		Glacial Drift.	Solid Rock.	Retaining Wall.	Glacial Drift.	Solid Rock.	
.....	.....	.....	.....	$ 178,000 00	.....	.....	.....
.....	$ .59	.....	.....	730 42	.....	.....	.....
.....	5.00	.....	.....	4,184 00	.....	.....	.....
.....	.....	.....	.....	*$ 182,914 42	.....	.....	.....
.....	.....	$ 8,338 12	$ 381,753 01	$ 152,358 08	$ 117 61	.....	$ 9,466 64
.....	.....	.....	.....	.....	.....	.....	$ 18,052 85
228,918	.....	$7.524,117 76	$9,153,926 31	$1,219,550 40	$ 304,809 86	$ 174,506 73	$ 728,889 84

dation excavation,1,238 cu. yds , and concrete, 836.8 cu. yds. involved in sub-foundation below line (—17.75) C.D.

NO 1—*Continued.*

Construction of Bridges, January 1. 1897.

VALUES—REGULAR CONTRACTS.								Grand Total for Bridges.
Masonry.	Excavation.	Piles.	Timber.	Concrete.	Collateral Work.	Total Substructure.	Total Superstructure	
.....	.....	.....	.....	.....	.....	.....	$ 21.393 40	$ 21,393 40
$ 12,834 40	.....	.....	.....	.....	.....	.....	.....	.....
.....	$ 10,524 60	.....	.....	.....	.....	.....	.....	.....
.....	.....	$ 2,177 50	.....	.....	.....	.....	.....	.....
.....	.....	.....	$ 2,396 68	.....	.....	.....	.....	.....
.....	.....	.....	.....	$ 6,510 35	.....	.....	.....	.....
$ 12,834 40	$ 10,524 60	$ 2,177 50	$ 2.396 68	$ 6,510 35	.....	$ 34,443 53	.....	.....
.....	.....	.....	.....	.....	.....	.....	$ 15,200 00	.....
$ 12.834 40	$ 10,524 60	$ 2,177 50	$ 2,396 68	$ 6,510 35	.....	$ 34.443 53	$ 15,200 00	$ 49,643 53
$ 5,461 82	.....	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	$ 1,017 90	.....	.....	.....	.....
.....	.....	.....	.....	.....	$ 132 63	.....	.....	.....
$ 5,461 82	.....	.....	.....	$ 1.017 90	$ 132 63	$ 6,612 35	.....	.....
.....	.....	.....	.....	.....	.....	85 95	.....	.....
.....	.....	.....	.....	.....	.....	.....	$ 33.477 00	.....
$ 5,461 82	.....	.....	.....	$ 1,017 90	$ 132 63	$ 6,526 40	$ 33,477 00	$ 40,003 40
$ 18,296 22	$ 10,524 60	$ 2,177 50	$ 2,396 68	$ 7,528 35	$ 132 63	$ 40,969 93	$ 70,070 40	$ 111,040 33

EXHIBIT B, TABLE NO. 1—*Continued.*

SUMMARY OF QUANTITIES.

For Summary of Values by Sections, See Page 69.

	Cubic Yards.	*Cubic Yards.*
Glacial Drift, Main Channel—		
Regular Contracts	26,211,340	
Excavation Account Southwest Boulevard Bridge	23,388	
Collateral Contract, Spoil Bank Removal, Section 5	16,671	
Collateral Contract, Excavation of Slide, Section 5	15,000	
Total Glacial Drift Account Main Channel		26,266,399
Glacial Drift, River Diversion—		
Regular Contracts	1,156,528	
Collateral Contract, Spillway Construction, Section F	4,713	
Collateral Contract, Force Account, near Spillway, Section F	16,500	
Collateral Contract, Muck in River, Section A	122,342	
Collateral Contract, Below Grade in River, Section A	21,225	
Collateral Contract, Completing Levee, Section A	87,361	
Collateral Contract, Work Opposite Columbia Park, J. Lehman, Section 1	10,162	
Collateral Contract, Force Account, Alfred Harley, Section 1	158,617	
Collateral Contract, Force Account, McArthur Brothers Company, Section 2	89,718	
Collateral Contract, Force Account, McArthur Brothers Company, Section 4	106,803	
Collateral Contract, Force Account, McArthur Brothers Company, Section 5	12,256	
Collateral Contract, Force Account, Mason, Hoge & Co., Section 11	6,865	
Total Glacial Drift, Account River Diversion		1,793,090
Total Glacial Drift Account Main Channel and River Diversion		28,059,489
Solid Rock, Main Channel—		
Regular contracts	12,083,336	
Collateral Contract, Repairing Retaining Wall	1,300	
Collateral Contract, Tunneling under Santa Fe Tracks	121.1	
Total Solid Rock, Account Main Channel		12,084,757.1
Solid Rock, River Diversion—		
Regular Contracts	228,918	
Collateral Contract, Force Account, Section 4, McArthur Brothers	17,857	
Collateral Contract, Force Account, Section 11, Mason, Hoge & Co.	4,409	
Collateral Contract, Force Account, Section 12, Mason, Hoge & Co.	7,475	
Total Solid Rock Account River Diversion		258,659
Total Solid Rock Account Main Channel and River Diversion		12,343,416.1
Total Glacial Drift Account Main Channel and River Diversion		28,059,489
Total Solid Rock Account Main Channel and River Diversion		12,343,416.1
Grand Total of Yardage		40,402,905.1
Retaining Wall, Regular Contracts	369,969.64	
Collateral Contract, Repairing Wall, Section 5, Qualey Construction Company	2,000	
Total Retaining Wall		371,969.64
Slope Paving, Regular Contract, Section 1		1,285
Bridge Masonry and Concrete, Regular Contract		4,125.22

EXHIBIT B. TABLE NO. 1—*Continued*—SUMMARY OF VALUES—REVISED ESTIMATE OF JANUARY 1ST, 1897.

SECTION.	REGULAR CONTRACTS.				COLLATERAL CONTRACTS.				REGULAR AND COLLATERAL CONTRACTS.			
	Main Channel.	River Diversion.	Bridges.	Total.	Main Channel.	River Diversion.	General.	Total.	Main Channel.	River Diversion.	Bridges.	‡Total.
O	$ 344,784 35			$ 344,784 35	$26,450 03			$ 26,450 03	$ 371,234 38			$ 371,234 38
N	256,183 89			256,183 89					256,183 89			256,183 89
M	158,015 06			158,015 06					158,015 06			158,015 06
L	218,106 38			218,106 38					218,106 38			218,106 38
K	295,146 00			295,146 00			$ 41 79	41 79	295,146 00			295,187 79
I	289,846 00			289,846 00					289,846 00			289,846 00
H	316,741 48			316,741 48					316,741 48			316,741 48
G	381,847 48			381,847 48			324 92	324 92	381,847 48			382,172 40
F	307,356 43	$ 37,580 58		344,937 01		$ 38,047 15		38,047 15	307,356 43	$ 75,627 73		382,984 16
E*	548,017 80	26,323 00		574,340 80		2,579 45	190 01	2,769 46	548,017 80	28,902 45		577,110 26
D	598,558 16			598,558 16		2,880 54		2,880 54	598,558 16	2,880 54		601,438 70
C	442,847 16	38,196 19		481,043 35			1 360 71	1,360 71	442,847 16	38,196 19		482,404 06
B	432,480 00	57,371 22		489,851 22		400 00	1,680 12	2,080 12	432,480 00	57,771 22		491,931 34
A	792,405 98	39,330 16		831,736 14	220 60	76,190 97	6,736 05	83,147 60	792,626 58	115,521 13		914,883 74
1	1,158,205 14	1,586 52		1,159,791 66	1,044 05	177,856 13	271 57	179,171 75	1,159,249 19	179,442 65		1,338,963 41
2	871,141 50	8,264 48		879,405 98		55,005 68		55,005 68	871,141 50	63,270 16		934,411 66
3	840,952 93			840,952 93					840,952 93			840,952 93
4	975,248 98			975,248 98		79,910 23		79,910 23	975,248 98	79,910 23		1,055,159 21
5	728,585 75			728,585 75	20,156 67	6,596 54		26,753 21	748,742 42	6,596 54		755,338 96
6	685,723 41	32,034 69		717,758 10	16,614 24	7,821 03		24,435 27	702,337 65	39,855 72		742,193 37
7	722,172 30	57,138 39		779,310 69	11,416 49	10,568 75		21,985 24	733,588 79	67,707 14		801,295 93
8	890,170 10	89,355 27		979,525 37	6,549 95	42,090 41	2,000 00	50,640 36	896,720 05	131,445 68		1,030,165 73
9	791,838 28	23,573 72		815,412 00	1,012 30		3,000 00	4,012 30	792,850 58	23,573 72		819,424 30
10	921,447 75	54,199 05		975,646 80	86 68	41,447 38	7,097 80	48,631 86	921,534 43	95,646 43		1,024,278 66
11	797,662 32	10,694 68		808,357 00	55 18	34,159 74		34,214 92	797,717 50	44,854 42		842,571 92
12	837,268 15	3,551 05		840,819 20	1,289 74	18,217 47		†19,507 21	838,557 89	21,768 52		860,326 41
13	819,388 19			819,388 19					819,388 19			819,388 19
14	933,004 29			933,004 29					933,004 29			933,004 29
15	542,449 21	117 61		542,566 82	9,466 64			9,466 64	551,915 85	117 61		552,033 46
Below 15							18,052 85	18,052 85				18,052 85
Total	$17,897,594 47	$479,316 61		$18,376,911 08								$19,105,800 92
Pan-Handle Bridge			$ 21,393 40	21,393 40							$ 21,393 40	21,393 40
Southwest Boulevard Bridge			49,643 53	49,643 53							49,643 53	49,643 53
Elgin, Joliet and Eastern R. R. Bridge			40,003 40	40,003 40							40,003 40	40,003 40
Controlling Works			182,914 42									182,914 42
Total for all work under contract Jan. 1st, 1897			$111 040 33	$18,670,865 83	$94,362 57	$593,771 47	$40,755 80	$728,889 84	$17,991,957 04	$1,073,088 08	$111,040 33	$19,399,755 67

†Includes $1,732 72 regular contract for improvement of Romeo Highway.

*Flood damages $5,115.22, Section E not included, because charged against Streeter and Kenefick. Sections F, E and 1 are on basis of new contracts. See notes on these sections in body of Chief Engineer's Report for difference in cost between old and new contracts.

‡These amounts include all amounts in General Column.

EXHIBIT B

Statement Showing Condition

Section.	DESIGNATION.	Revised Preliminary Estimate of January 1, 1897.	*Earned to and Including Jan. 1, 1897.* Regular Contracts.	Collateral Contracts.	Total.
O	Main and Collateral Channels	$ 344,784 35	$ 222,827 95		
	Western Ave. Temporary Bridge and Roadway			$ 4,273 05	
	Narrow Cut in Main Channel bet. Sta. 66+25—68			3,984 54	
	Dredge Pit through Pan Handle Embankment			4,258 66	
	Temporary Pan Handle Bridge			10,353 63	
	Total Collateral Contracts	$ 26,450 03		$ 22,869 88	
	Totals for Section	$ 371,234 38	$ 222,827 95	$ 22,869 88	$ 245,697 83
N	Main Channel	$ 256,183 89	$ 80,821 08		$ 80,821 08
M	Main Channel	$ 158,015 06	$ 158,015 06		$ 158,015 06
L	Main Channel	$ 218,106 38	$ 217,287 06		$ 217,287 06
K	Main Channel	$ 295,146 00	$ 287,257 75		
	Drainage Boxes	41 79		$ 41 79	
	Totals for Section	$ 295,187 79	$ 287,257 75	$ 41 79	$ 287,299 54
I	Main Channel	$ 289,846 00	$ 289,846 00		$ 289,846 00
H	Main Channel	$ 316,741 48	$ 276,564 30		$ 276,564 30
G	Main Channel	$ 381,847 48	$ 357,192 64		
	Draining Impounded Water	324 92		324 92	
	Totals for Section	$ 382,172 40	$ 357,192 64	$ 324 92	$ 357,517 56
F	Ricker, Lee & Co		$ 157,350 16		
	Weir, McKechney & Co		115,476 87		
	Totals Regular Contracts	$ 344,937 01	$ 272,827 03		
	Spillway Construction			$ 20,518 41	
	Excavation near Spillway			11,653 09	
	Raising Santa Fe Bridge			5,875 65	
	Total Collateral Contracts	$ 38,047 15		$ 38,047 15	
	Totals for Section	*$ 382,984 16	$ 272,827 03	$ 38,047 15	$ 310,874 18
E	Streeter & Kenefick		$ 155,342 28		
	Angus & Gindele		240,226 02		
	Totals, Regular Contracts	$ 574,340 80	$ 395,568 30		
	Overhaul, River Diversion			$ 2,579 45	
	Summit Highway			190 01	
	Totals, Collateral Contracts	$ 2,769 46		$ 2,769 46	
	Totals for Section	‡$ 577,110 26	$ 395,568 30	†$ 2,769 46	$ 398,337 76
D	Main Channel	$ 598,558 16	$ 542,364 50		
	Raising Calumet Terminal Bridge			$ 1,880 54	
	Pile Trestle			1,000 00	
	Totals, Collateral Contracts	$ 2,880 54		2,880 54	
	Totals for Section	$ 601,438 70	$ 542,364 50	$ 2,880 54	$ 545,245 04
C	Main Channel and River Diversion	$ 481,043 35	$ 447,534 00		
	Building Sand Excavation			$ 781 63	
	Raising Illinois and Michigan Canal Spoil Bank			579 08	
	Totals, Collateral Contracts	$ 1,360 71		$ 1,360 71	
	Totals for Section	$ 482,404 06	$ 447,534 00	$ 1,360 71	$ 448,894 71

TABLE NO 2.

of Contracts January 1, 1897.

Remaining to be Earned.			*Reserved, 12½% and 10%.*			Total Remaining to be Earned, Plus Total Reserved.
Regular Contracts.	Collateral Contracts.	Total.	Regular Contracts.	Collateral Contracts.	Total.	
$ 121.956 40			$ 27,853 49			
				$ 532 33		
	$ 3,580 15					
	$ 3,580 15			$ 532 33		
$ 121,956 40	$ 3,580 15	$ 125,536 55	$ 27,853 49	$ 532 33	$ 28,385 82	$ 153,922 37
$ 175,362 81		$ 175,362 81	$ 10,102 64		$ 10,102 64	$ 185,465 45
$ 819 32		$ 819 32				$ 819 32
$ 7,888 25						
$ 7,888 25		$ 7,888 25				$ 7,888 25
$ 40,177 18		$ 40,177 18	$ 4,463 83		$ 4,463 83	$ 44,641 01
$ 24,654 84			$ 44,649 08			
$ 24,654 84		$ 24,654 84	$ 44,649 08		$ 44,649 08	$ 69,303 92
			$ 19,668 77			
			14,434 61			
$ 72,109 98			$ 34,103 38			
$ 72,109 98		*$ 72,109 98	$ 34,103 38		$ 34,103 38	*$ 106,213 36
			$ 19,417 78			
			30,028 25			
$ 178,772 50			$ 49,446 03			
$ 178,772 50		$ 178,772 50	$ 49,446 03		$ 49,446 03	‡$ 228,218 53
$ 56,193 66			$ 67,795 56			
$ 56,193 66		$ 56,193 66	$ 67,795 56		$ 67,795 56	$ 123,989 22
$ 33,509 35			$ 55,941 75			
$ 33,509 35		$ 33,509 35	$ 55,941 75		$ 55,941 75	$ 89,451 10

EXHIBIT B—TABLE

Section.	DESIGNATION.	Revised Preliminary Estimate of January 1, 1897.	*Earned to and Including Jan. 1, 1897.*		
			Regular Contracts.	Collateral Contracts.	Total.
B	Main Channel and River Diversion	$ 489,851 22	$ 483,404 00		
	Raising Illinois and Michigan Canal Bank			$ 1,680 12	
	Revetting Levee			400 00	
	Totals, Collateral Contracts	$ 2,080 12		$ 2,080 12	
	Totals for Section	$ 491,931 34	$ 483,404 00	$ 2,080 12	$ 485,484 12
A	Main Channel and River Diversion	$ 831,736 14	$ 711,529 20		
	Completing Levee			$ 31,449 96	
	Overhaul, Levee Material			10,178 60	
	Muck, Desplaines River			18,351 30	
	Levee Trestle			8,597 35	
	Raising Illinois and Michigan Canal Bank			5,888 63	
	Extra Depth River Diversion			6,500 16	
	Flood Damages Illinois & Michigan Canal Levee			847 40	
	Removing Hard Material, Desplaines River			285 60	
	Removing Hydraulic Dredge			220 60	
	Revetting Muck Levee			828 00	
	Totals, Collateral Contracts	$ 83,147 60		$ 83,147 60	
	Totals for Section	$ 914,883 74	$ 711,529 20	$ 83,147 60	$ 794,676 80
1	Alfred Harley	$ 31,162 32	$ 31,162 32		
	Heldmaier & Neu	3,652 34	3,652 34		
	Griffiths & McDermott	1,124,977 00	893,889 10		
	Totals, Regular Contracts	$1,159,791 66	$ 928,703 76		
	River Diversion, Force Account			$ 137,254 90	
	River Improvement, Force Account			4,268 04	
	Overhaul to Section A			32,810 20	
	Willow Springs Road, Force Account			1,719 86	
	Raising Spoil Bank Levee, Force Account			1,044 05	
	Clearing Land on River Improvement			504 41	
	Willow Springs Road, Force Account			778 22	
	Dyke at Columbia Park			300 00	
	Raising Illinois & Mich. Canal Levee, Force Acct.			241 57	
	Removing Dam in River			210 60	
	Repairing Columbia Park Buildings			30 00	
	Hay for Repairing Levee			10 50	
	Totals, Collateral Contracts	$ 179,171 75		$ 179,171 75	
	Totals for Section	$$1,338,963 41	$ 928,703 76	$ 179,171 75	$1,107,875 51
2	Main Channel and River Diversion	$ 879,405 98	$ 877,905 98		
	River Diversion, Force Account	55,005 68		$ 55,005 68	
	Totals for Section	$ 934,411 66	$ 877,905 98	$ 55,005 68	$ 932,911 66
3	McArthur Bros	$ 19,793 70	$ 19,793 70		
	Gilman & Co	821,159 23	821,159 23		
	Totals for Section	$ 840,952 93	$ 840,952 93		$ 840,952 93
4	Main Channel	$ 975,248 98	$ 972,222 54		
	River Diversion, Force Account	79,910 23		$ 79,910 23	
	Totals for Section	$1,055,159 21	$ 972,222 54	$ 79,910 23	$1,052,132 77
5	Main Channel	$ 728,585 75	$ 723,841 50		
	Repairing Break in Retaining Wall			$ 13,688 00	
	River Diversion, Force Account			6,246 54	
	Removing Spoil Bank			4,501 17	
	Rip-rap on Levee			350 00	
	Cutting Narrow Rock Channel			700 00	
	Totals, Collateral Contracts	$ 26,753 21		$ 25,485 71	
	Totals for Section	$ 755,338 96	$ 723,841 50	$ 25,485 71	$ 749,327 21

NO. 2—*Continued.*

Remaining to be Earned.			*Reserved, 12½% and 10%.*			Total Remaining to be Earned, Plus Total Reserved.
Regular Contracts.	Collateral Contracts.	Total.	Regular Contracts.	Collateral Contracts.	Total.	
$ 6,447 22			$ 60,425 50			
$ 6,447 22		$ 6,447 22	$ 60,425 50		$ 60,425 50	$ 66,872 72
$ 120,206 94			$ 88,941 15			
$ 120,206 94		$ 120,206 94	$ 88,941 15		$ 88,941 15	$ 209,148 09
			$ 6,179 83			
$ 231,087 90			111,736 14			
$ 231,087 90			$ 117,915 97			
				$ 4,101 27		
$ 231,087 90		§$ 231,087 90	$ 117,915 97	$ 4,101 27	$ 122,017 24	§$ 353,105 14
$ 1,500 00			$ 109 738 25			
$ 1,500 00		$ 1,500 00	$ 109,738 25		$ 109,738 25	$ 111,238 25
$ 3,026 44			$ 121,527 82			
$ 3,026 44		$ 3,026 44	$ 121,527 82		$ 121,527 82	$ 124,554 26
$ 4,744 25			$ 90,480 19			
	$ 1,267 50					
	$ 1,267 50					
$ 4,744 25	$ 1,267 50	$ 6,011 75	$ 90,480 19		$ 90,480 19	$ 96,491 94

EXHIBIT B, TABLE

Section.	DESIGNATION.	Revised Preliminary Estimate of January 1, 1897.	*Earned to and Including Jan. 1, 1897.* Regular Contracts.	Collateral Contracts.	Total.
	Vivian & Co	$ 5,302 00	$ 5,302 00		
	Mason, Hoge & Co	712,456 10	712,456 10		
	Totals, Regular Contracts	$ 717,758 10	$ 717,758 10		
	Embankment			$ 16,055 65	
	Rip-rap on Levee			2,893 59	
6	Hard Material on Levee			3,734 50	
	Raising Levee			730 89	
	Suppressing Fires on Levee			462 05	
	Concrete under Retaining Wall			558 59	
	Totals, Collateral Contracts	$ 24,435 27		$ 24,435 27	
	Totals for Section	$ 742,193 37	$ 717,758 10	$ 24,435 27	$ 742,193 37
	Main Channel and River Diversion	$ 779,310 69	$ 779,310 69		
	Quarrying Dimension Stone			$ 8,358 00	
	Embankment			2,286 05	
	Raising Levee			381 16	
	Rip-rap			2,694 51	
	Earth Core			2,000 00	
	Raising Levee, Force Account			1,000 00	
7	Suppressing Fires on Levee			693 08	
	Piling Dimenson Stone			400 00	
	Tearing down and Rebuilding Retaining Wall			372 44	
	Raising Levee, Extra Appropriation				
	Hard Material on Levee				
	Totals, Collateral Contracts	$ 21,985 24		$ 18,185 24	
	Totals for Section	$ 801,295 93	$ 779,310 69	$ 18,185 24	$ 797,495 93
	Main Channel and River Diversion	$ 979,525 37	$ 964,738 33		
	Roadway and River Diversion Bridges			$ 40,868 39	
	Moving Cable Towers			2,992 15	
	Agnew & Co., Claims			2,000 00	
	Quarrying Dimension Stone			1,370 20	
	Building Trestle, Main Channel			966 37	
8	Stephen Street Improvements			1,000 00	
	Moving Telegraph Lines			487 58	
	Replacing Right of Way Fence			222 02	
	Tunnel and Open Cut under Santa Fe Tracks			733 65	
	Totals, Collateral Contracts	$ 50,640 36		$ 50,640 36	
	Totals for Section	$1,030,165 73	$ 964,738 33	$ 50,640 36	$1,015,378 69
	Main Channel and River Diversion	$ 815,412 00	$ 815,412 00		
	Agnew & Co., Claims			$ 3,000 00	
9	Building Trestle, Main Channel			1,012 30	
	Totals, Collateral Contracts	$ 4,012 30		$ 4,012 30	
	Totals for Section	$ 819,424 30	$ 815,412 00	$ 4,012 30	$ 819,424 30
	Main Channel and River Diversion	$ 975,646 80	$ 975,646 80		
	River Diversion Levee, Force Account			$ 24,063 17	
	Roadway and River Diversion Bridge			15,983 63	
	Tracks at Quarry No. 5			3,120 89	
	Maintaining Western Stone Co's Tracks			2,995 01	
	Protection Levee at Quarry No 5			1,400 58	
	Removing Western Stone Co's Tracks			632 44	
10	Changing Western Stone Co's Tracks			267 15	
	Building Stairway, Main Channel			59 35	
	Removing Stairway and Platform			27 33	
	Repairing Break in Illinois and Michigan Canal			7 04	
	Repairing Levee			75 27	
	Totals, Collateral Contracts	$ 48,631 86		$ 48,631 86	
	Total for Sections	$1,024,278 66	$ 975,646 80	$ 48,631 86	$1,024,278 66

NO. 2—*Continued.*

Remaining to be Earned.			*Reserved, 12½% and 10%.*			Total Remaining to be Earned, Plus Total Reserved.
Regular Contracts.	Collateral Contracts.	Total.	Regular Contracts.	Collateral Contracts.	Total.	

EXHIBIT B, TABLE

Section.	DESIGNATION.	Revised Preliminary Estimate of January 1, 1897.	*Earned to and Including Jan. 1, 1897.* Regular Contracts.	Collateral Contracts.	Total.
11	Main Channel and River Diversion	$ 808,357 00	$ 808,357 00		
	Core for Levee			$ 17,907 10	
	River Diversion, Force Account			14,113 82	
	Extra Work on Levee			1,138 82	
	Raising Levee, Extra Appropriation				
	Extra Work, Channeling Machine			55 18	
	Totals, Collateral Contracts	$ 34,214 92		$ 33,214 92	
	Totals for Section	$ 842,571 92	$ 808,357 00	$ 33,214 92	$ 841,571 92
12	Main Channel and River Diversion	$ 840,819 20	$ 840,819 20		
	Draining Goose Lake			$ 8,942 88	
	Core for Levee			7,541 87	
	Building Trestle, Main Channel			910 44	
	Completing Temporary Roadway at Romeo			300 00	
	Repairing Romeo Trestle			56 12	
	Highway Crossing at Romeo			23 18	
	Romeo Highway, "Daniel Sullivan"			1,732 72	
	Totals, Collateral Contracts	$ 19,507 21		$ 19,507 21	
	Totals for Section	$ 860,326 41	$ 840,819 20	$ 19,507 21	$ 860,326 41
13	Main Channel	$ 819,388 19	$ 819,388 19		$ 819,388 19
14	Main Channel	$ 933,004 29	$ 901,827 89		$ 901,827 89
15	Main Channel and River Diversion	$ 542,566 82	$ 542,484 81		
	Extra Cost Account Foundation Excavation	9,466 64		$ 9,466 64	
	Totals for Section	$ 552,033 46	$ 542,484 81	$ 9,466 64	$ 551,951 45
	Below Section 15—Collateral— Work on Hyde's Mill and Dam No. 1	$ 18,052 85		$ 18,052 85	$ 18,052 85
	Pan Handle Bridge— Extra Superstructure	$ 21,393 40	$ 21,393 40		$ 21,393 40
	Southwest Boulevard Bridge— Substructure	$ 34,443 53	$ 1,782 30		
	Superstructure	15,200 00			
	Totals for Bridge	$ 49,643 53	$ 1,782 30		$ 1,782 30
	Elgin, Joliet and Eastern Railroad Bridge— Substructure	$ 6,526 40	$ 5,371 95		
	Superstructure	33,477 00			
	Totals for Bridge	$ 40,003 40	$ 5,371 95		$ 5,371 95
	Controlling Works	$ 182,914 42	$ 123,581 09		$ 123,581 09
	Grand Totals	$19,399,755 67	$17,404,537 33	$ 719,242 19	$18,123,779 52

*Section F—On basis of new contract throughout; includes $35,551.34 excess over original contract,
‡Section E—On basis of new contract throughout; is $30,375.45 less than original contract, which
†Section E—Does not include $5,115.22 flood damages.
§Section 1—On basis of new contract; includes $162,646.00 excess over original contract, chargeable

NO. 2—*Continued.*

Remaining to be Earned.			*Reserved, 12½% and 10%.*			Total Remaining to be Earned, Plus Total Reserved.
Regular Contracts.	Collateral Contracts.	Total.	Regular Contracts.	Collateral Contracts.	Total.	
	$ 1,000 00					
	$ 1,000 00					
	$ 1,000 00	$ 1,000 00				$ 1,000 00
$ 31,176 40		$ 31,176 40	$ 6,213 20		$ 6,213 20	$ 37,389 60
$ 82 01			$ 67,810 60			
$ 82 01		$ 82 01	$ 67,810 60		$ 67,810 60	$ 67,892 61
$ 32,661 23			$ 222 79			
15,200 00						
$ 47,861 23		$ 47,861 23	$ 222 79		$ 222 79	$ 48,084 02
$ 1,154 45			$ 671 49			
33,477 00						
$ 34,631 45		$ 34,631 45	$ 671 49		$ 671 49	$ 35,302 94
$ 59,333 33		$ 59,333 33	$ 614 30		$ 614 30	$ 59,947 63
$ 1,266,328 50	$ 9,647 65	$ 1,275,976 15	$ 958,917 02	$ 4,633 60	$ 963,550 62	$ 2,239,526 77

chargeable against Ricker, Lee & Co.
additional amount will be due on Streeter & Kenefick's contract, less $5,115.22 flood damages.

against original contractor.

EXHIBIT B, TABLE NO. 2—*Concluded.*

COMPARISON OF FOREGOING TABLE WITH REPORT OF CLERK FOR JANUARY 1ST, 1897.

Earned to January 1st—Regular	$17,404,537 33	
Earned to January 1st—Collateral	719,242 19	
Total earnings	$18,123,779 52	
Flood damages charged against Streeter & Kenefick	5,115 22	
		$18,128,894 74
Total Reserved, by Table	$ 963,550 62	
Unpaid Vouchers—Regular Contracts	242,722 70	
Unpaid Vouchers—Collateral Contracts	8,942 66	
Uncalled for Pay Envelopes, River Diversion, Force Account, returned into Construction Account	513 98	
For Bolts Sold Atchison, Topeka and Santa Fe Railroad Company and turned into Construction Account	41 60	
Agreed Reduction Elgin, Joliet and Eastern Railroad Company's Bridge Contract	85 95	
		$1,215,857 51
Net Amount Expended, Construction Account		$16,913,037 23
By Clerk's Report (Pages 3772-4 of Proceedings)—		
Total Expenditures, including $5,115.22 charged against Streeter & Kenefick	$16,994,592 81	
Total Receipts	81,555 58	
Net Expenditures to January 1st, 1897		$16,913,037 23

7-
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EXHIBIT B, TABLE NO 3—SANITARY DISTRICT OF CHICAGO—ENGINEERING DEPARTMENT.

Yardage Statement of Regular and Collateral Contracts from the Beginning of Work to January 1, 1897.

SECTION.		WORK DONE DURING 1892.		WORK DONE DURING 1893.		WORK DONE DURING 1894.			WORK DONE DURING 1895.			WORK DONE DURING 1896.				TOTAL WORK DONE TO DECEMBER 31, 1896.				REVISED TOTAL APPROXIMATE ESTIMATE.				REMAINING TO BE DONE.				PRICE.
		Glacial Drift.	Solid Rock.	Glacial Drift.	Solid Rock.	Glacial Drift.	Solid Rock.	Retaining Wall.	Glacial Drift.	Solid Rock.	Retaining Wall.	Glacial Drift.	Solid Rock.	Retaining Wall.	Bridge Masonry.	Glacial Drift.	Solid Rock.	Retaining Wall.	Bridge Masonry.	Glacial Drift.	Solid Rock.	Retaining Wall.	Bridge Masonry.	Glacial Drift.	Solid Rock.	Retaining Wall.	Bridge Masonry.	
O						518,821			111,000			332,225				962,046				1,516,736				554,690				$ 0.21
						7,600			89,500			7,414				104,514				132,009				27,495				.199
												1,259				1,289				23,388				22,099				.45
																							2,104.00				2,104.00	6.10
																			979.00								979.00	6.65
	Total for Section					526,421			200,500			340,938				1,067,849			979.00	1,672,138			3,083.00	604,284			3,083.00	
N	Total for Section					71,300			68,500			211,596				351,396				1,113,843				762,447				.23
M	Total for Section					343,800			374,850			9,530				728,180				728,180								.217
L	Total for Section					458,100			635,850			9,030				1,102,980				1,107,139				4,159				.197
K	Total for Section					414,600			701,000			32,831				1,149,031				1,180,584				31,553				.25
I	Total for Section					680,400			451,000			27,384				1,159,384				1,159,384								.25
H	Total for Section					141,444			459,353			352,873				953,670				1,092,213				138,543				.29
G	Total for Section					527,900			437,385			310,397				1,275,088				1,363,741				88,653				.28
F				366,914		295,613			300,900			190,547				+ 662,527				657,144				197,752				.23¾
																391,447				589,199								.29½
				4,713												4,713				4,713								.699
				16,500												16,500				16,500								.7062
																					16,724				16,724			.90
	Total for Section			388,127		295,613			300,900			190,547				1,075,187				1,367,556	16,724			197,752	16,724			
E				564,881		49,219			426,781			413,726				889,726				1,349,190				459,464				.27
																‡ 564,881				563,360								.27½
																					78,765				78,765			.70
	Total for Section			564,881		49,219			426,781			413,726				1,454,607				1,912,550	78,765			459,464	78,765			
D				227,317		890,555			564,528			212,000				1,894,400				1,914,168				19,768				.26 7-16
													44,900				44,900		100,000					55,100			.9259
	Total for Section			227,317		890,555			564,528			212,000	44,900			1,894,400	44,900			1,914,168	100,000			19,768	55,100			
C	Total for Section			290,652		664,873			560,676			388,200				1,904,400				2,046,993				142,593				.23½
B				204,629		604,477			574,097			372,000				1,755,200				1,761,486				6,286				.27
													10,000				10,000		15,000					5,000			.95
	Total for Section			204,629		604,477			574,097			372,000	10,000			1,755,200	10,000			1,761,486	15,000			6,286	5,000			
A						122,342										122,342				122,342								.15
				190,154		811,179			274,861			1,066,628				2,342,825				2,726,158				383,333				.30⅝
						86,000			1,361							87,361				87,361								.36
													674				674				4,188				3,514			.80
	Total for Section			190,154		1,019,521			276,225			1,066,628	674			2,592,528	674			2,935,861	4,188			383,333	3,514			
1				110 719		13,697										115,416				115,416								.27
						11,926										11,926				11,926								.30⅝
				10,162												10,162				10,162								.42
						301,700			436,500			318,700				1,056,200				1,144,000				87,100				.429
				158,617												158,617				158,617								.8653
										108,200			273,800				382,000				550,000				168,000			.80
											1,744			44,766				46,510		66,700				20,190			2 90
	Total for Section			270,498		327,323			436,500	108,200	1,744	318,700	273,800	44,766		1,353,021	382,000	46,510		1,440,121	550,000	66,700		87,100	168,000	20,190		
2		24,700		32,400		2,091										59,191				59,191								.28
				63,400		483,452			132,373			12,700				601,925				601,925								.50
				80,718												80,718				80,718								.6131
							32,242			274,058			170,000				476,300				477,300				1,000			.80
											1,900			36,480				38,380		38,580				200			3 50
	Total for Section	24,700		185,518		485,543	32,242		132,373	274,058	1,900	12,700	170,000	36,480		840,834	476,300	38,380		840,834	477,300	38,580			1,000	200		
3		36,400		36,810												73,310				73,310								.27
				21,200		256,778			60,622			13,795				352,395				352,395								.56
							200,352			514,648			45,778				760,778				760,778								.76
											12,000			2,039				14,039		14,039								3 25
	Total for Section	36,400		58,110		256,778	200,352		60,622	514,648	12,000	13,795	45,778	2,039		425,705	760,778	14,039		425,705	760,778	14,039						
4		31,300		12,700		4,393										48,393				18,593								.27
				87,300		537,086			390,721			23,600				1,047,607				1,048,153				546				.49
				106,803												106,803				106,803								.502
							6,491			171,309			101,700				259,500				262,428				2,928			.80
					17,857												17,857				17,857							1.472
														68,050			68,050					68,169				119		3 50
	Total for Section	31,500		206,703	17,857	541,479	6,491		390,721	171,309		23,600	101,700	68,050		1,203,003	277,357	68,050		1,203,549	280,285	68,169		546	2,928	119		
5		23,600		185,300		57,071										265,971				265,971								.27
						317,700			284,300			66,700				668,700				668,700								.31
												14,500				14,500				15,000				500				.50
				12,256												12,256				12,256								.5096
							15,100			152,300			203,500				371,900				377,400					5,500			.7345
								1,300			25,710			29,030				56,100		56,029					529		3 25
	Total for Section	23,600		197,556		374,771	15,100	1,300	284,300	152,300	25,710	81,200	203,500	29,030		961,427	371,900	56,100		961,927	377,400	56,029		500	5,500	529		
6		18,200		229,800		24,100										24,100				24,100								.32
						381,500			127,300			20,095				777,795				777,795								.37
							43 100			320,300			185,955				549,355				549,355								.734
								1,300			27,200			1,861.7				30,361.7		30,361.7								3 25
	Total for Section	18,200		229,800		405,600	43 100	1,300	127,300	320,300	27,200	20,095	185,955	1,861.7		801,895	549,355	30,361.7		801,895	549,355	30,361.7						
7		29,800		134,700		102,100			3,717			9,321				279,638				279,638								.26
			500		107,700		297,000			420,200			108,641				934,041				934,041								.781
											5,800			379.9				6,179.9		6,179.9								3 25
	Total for Section	29,800	500	134,700	107,700	102,100	297,000		3,717	420,200	5,800	9,321	108,641	379.9		279,638	934,041	6,179.9		279,638	934,041	6,179.9						
8		54,800		5,600		37,800			9,302			570				108,072				108,072								.26
			12,840		150,260		546,800			410,200			81,430				1,240,530				1,260,312					19,782			.734
													121.1				121.1		121.1								1.50
											2,700		174.9					2,874.9	2,874.9								3 25
	Total for Section	54,800	12,840	5,600	150,260	37,800	546,800		9,302	410,200	2,700	570	81,551.1	174.9		108,072	1,240,651.1	2,874.9		108,072	1,260,433.1	2,874.9			19,782			
9		46,400		42,000		21,000			8,032			23				117,455				117,455								.26
			2,640		93,960		487,800			435,694			548				1,020,642				1,020,642								.568
	Total for Section	46,400	2,640	42,000	93,960	21,000	487,800		8,032	435,694		23	548			117,455	1,020,642			117,455	1,020,642							
10		46,200		7,100		3,300			5,456							62,056				62,056								.25
			20,350		253,550		630,800			294,707			699				1,200,166				1,200,166								.80
	Total for Section	46,200	20,350	7,100	253,550	3,300	630,800		5,456	294,707			699			62,056	1,200,166			62,056	1,200,166							
11		34,100		11,950		3,732						67				49,855				49,855								.30¼
				6,865												6,865				6,865								.708
			9,200		251,383		386,100			350,250			3,946				1,000,979				1,000,979								.75¼
					4,409												4,409				4,409								2.098
	Total for Section	34,100	9,200	18,821	255,892	3,732	386,100			350,250		67	3,946			56,720	1,005,388			56,720	1,005,388							
12		15,553		11,847		11,739			15,131			1,499				55,769				55,769								.30¼
			22,100		255,600		344,800			309,640			6,569				998,709				998,709								.75¼
					7,475												7,475				7,475								1.196
											17.44							17 44			17 44								1 66
											9,152			117.5				9,269.5		9,269.5								3 50
	Total for Section	15,553	22,100	11,847	263,075	11,739	344,800		15,131	309,640	9,169 44	1,499	6,569	117.5		55,769	1,006,184	9,286.94		55,769	1,006,184	9,286.94						
13		22,822							600			388				33,810				33,810								.26
			30,700		327,300		515,700			156,700			3,265				1,033,665				1,033,665								.715
											10,760			78				10,898		10,898								3 50
	Total for Section	22,822	30,700		327,300		515,700		600	156,700	10,760	388	3,265	78		33,810	1,033,665	10,898		33,810	1,033,665	10,898						
14		15,000		28,066		88,544			16,500			18,946				167,046				167,046								.29
						212,100						1,019				213,119				213,119								.30
													1,800				4,800		8,400					3,600			.38
			20,800		98,505		176,495			688,400			32,225				1,016,425		1,016,425								.73
														13,740			13,740				23,500				9,760		2 74
	Total for Section	15,000	20,800	28,066	98,505	300,644	176,495		16,500	688,400		19,965	37,025	13,740		380,165	1,021,225	13,740		380,165	1,024,825	23,500			3,600	9,760		
15						20,500			2,600			3,843				35,943				35,943								.19
							9,700			383,000			255,438				648,138		648,277					139			.59
														44,811.2				44,811.2		44,811.2								.40
	Total for Section					20,500	9,700		2,600	383,000		3,843	255,438	44,811.2		35,943	648,138	44,811.2		35,943	648,277	44,811.2			139			
E., J. & E. R. R. Bridge															720				720				805.38			175.38	6.10
															141				141				116.81			5.84	6.65
	Total														861				861				1,042.2			181.22	
	Grand Total	409,075	119,130	3,262,076	1,577,099	9,589,527	3,692,480	2,600	7,431,999	5,060,666	96,983.44	4,444,336	1,533,989.1	241,588.2	861	25,140,013	11,983,364.1	341,171.64	861	28,059,489	12,343,416.1	371,969.64	1,125.2	2,920,380	360,052	30,798	3,264.22	

Addendum: Slope Paving, Section 1, 1,285 — Slope Paving, Section 1, 1,285 — .60

† Final notes on Ricker, Lee & Co's. contract show an overestimate of 5,383 cubic yards.

‡ Final notes on Streeter & Kenefick's contract show an overestimate of 1,521 cubic yards.

EXHIBIT B. TABLE NO. 4.

FURTHER WORK CONTEMPLATED, BUT NOT CONTRACTED FOR.

Bear Trap Dam, including foundation and connections	$ 55,118 00	
Tail race	425,260 00	
End of tail race to upper basin	150,000 00	
Through Joliet	1,760,000 00	
Bridges for railways and highways, (on basis of fixed bridges)	1,482,257 00	
Chicago River	500,000 00	
Total work yet to be contracted for on basis of fixed bridges	$ 4,372,635 00	
Total Main Channel and auxiliary work now under contract	19,399,755 67	
Total estimated cost of construction on basis of fixed bridges		$ 23,772,390 67
*Total expenditures for engineering and superintendence up to December 31st, 1896	$ 996,613 68	
Estimated cost of engineering and superintendence to complete work on the basis of 25 months remaining to do the same	350,000 00	
Total cost of engineering and superintendence		$ 1,346,613 68
Total cost of engineering, superintendence and construction		$ 25,119,004 35
Total amount vouchered for payment to December 31st, 1896	$ 17,164,788 54	
*Expended to Dec. 31st, 1896, for engineering and superintendence	996,613 68	
Total for construction, engineering and superintendence		$ 18,161,402 22
Balance needed on basis of fixed bridges		$ 6,957,602 13

*In this total for engineering and superintendence is included (1) $35,052.59 cost of pumping plants, (2) $5,246.04 for tow path maintenance and (3) $2,339.43 for office building at Sag, making a total of $42,638.06, which is not properly charged to engineering. The first two items should be charged to Maintenance, the last to Police Department, leaving the net charges to engineering and superintendence, $953,975.62.

SANITARY DISTRICT OF CHICAGO

GRAPHICAL STATEMENT

SHOWING VALUES OF

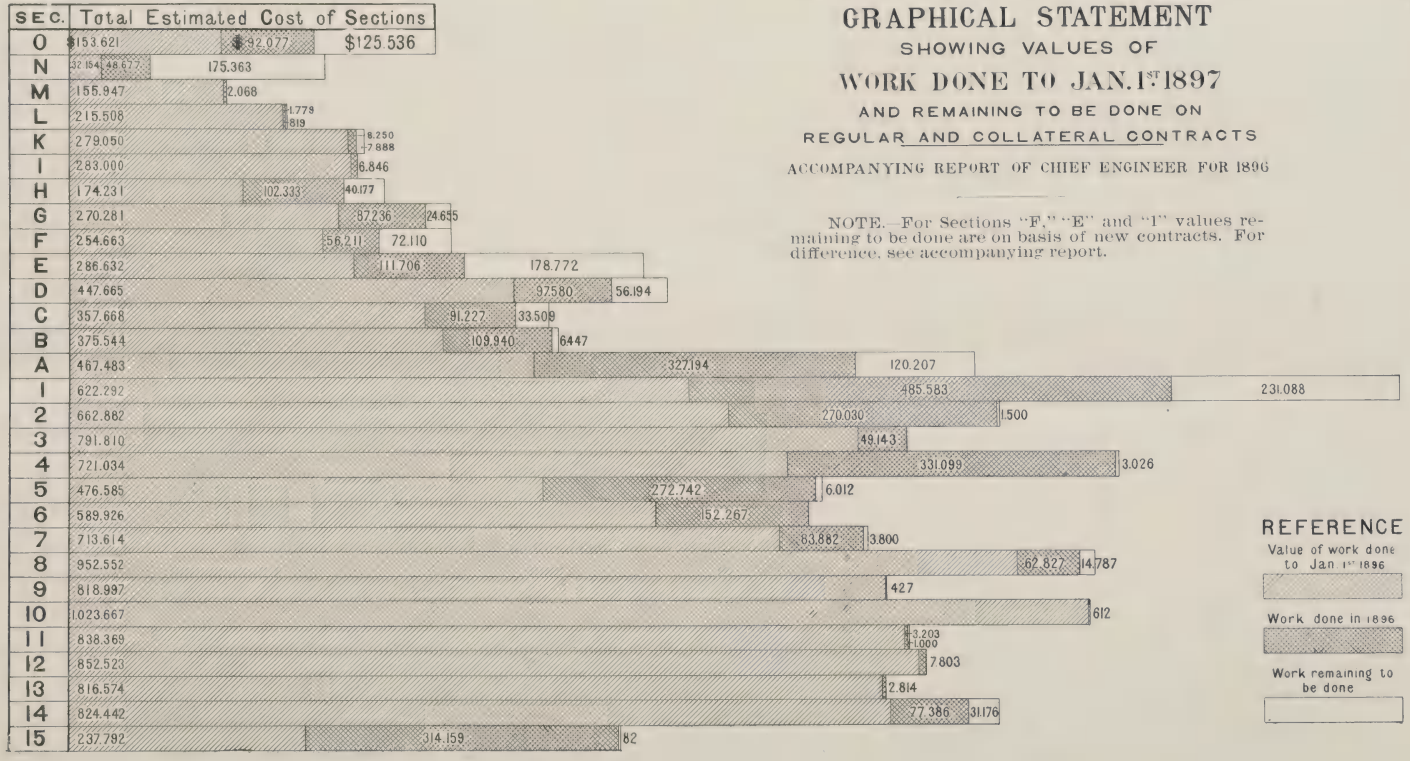
WORK DONE TO JAN. 1ST 1897

AND REMAINING TO BE DONE ON

REGULAR AND COLLATERAL CONTRACTS

ACCOMPANYING REPORT OF CHIEF ENGINEER FOR 1896

NOTE.—For Sections "F," "E" and "I" values remaining to be done are on basis of new contracts. For difference, see accompanying report.



ANNUAL REPORT OF LAW DEPARTMENT FOR 1896.

"CHICAGO, January 1, 1897.

To the Honorable the Board of Trustees of the Sanitary District of Chicago:

GENTLEMEN—Complying with the rules of your Honorable Body, and in conformity with precedent, I have the honor to submit the annual report of the Law Department for the year ending December 31st, 1896.

The Department being, in the character of its work, advisory and, in part, executive, in carrying out the orders of the Board and its Committees, nearly all matters arising in transacting the business of the District, have at some time been before the Department for consideration and action.

With the completion of over 90 per cent of the Main Channel proper, there has come a great increase in the number and variety of claims and requests before the Department, settlements and adjusting of controversies with contractors, payment of laborers, claims for damages of almost every conceivable sort, and others, many coming direct to the Department, and many on reference from the Board or Committees. All these engross a great deal of time of the Department in the daily routine of its work. In addition to these, has been the preparation of opinions and briefs on various questions arising from time to time; investigations and reports to the Committees, attending to litigations and many other matters.

LITIGATION.

Condemnation.

During the year, there has been begun in Will County condemnation suit against the Western Stone Company, et al., to acquire 132.39 acres of land. This suit was tried twice, each trial occupying three weeks time.

Condemnation proceedings were also begun against the Chicago and Western Indiana Railroad Company et al., in the Circuit Court of Cook County, for a right of way crossing of the Channel with the railroad right of way of said railroad, and is now pending.

Other Suits in Trial Courts.

In addition, other suits and proceedings in court have been begun during the year, to which the Sanitary District of Chicago is a party, as follows:

Strobel vs. Sanitary District of Chicago, in the Superior Court of Cook County.

Bates Machine Company vs. Sanitary District of Chicago et al., in the Circuit Court of Will County.

Incorporation of Village of Carrollville, County Court of Cook County.

Sanitary District of Chicago vs. County Treasurer of Will County, Circuit Court of Will County.

Western Wheeled Scraper Company vs. Harlev and the Sanitary District of Chicago et al., Circuit Court of Cook County.

McCullough vs. Sanitary District of Chicago, in Circuit Court of Cook County.

Gates Iron Works vs. Sanitary District of Chicago et al., in Circuit Court of Cook County.

Sanitary District of Chicago vs. Fischer, in Circuit Court of Cook County (now disposed of).

McDonnell vs. Sanitary District of Chicago, in Circuit Court of Cook County (now disposed of).

McDonnell vs. Sanitary District of Chicago, in Circuit Court of Cook County (now disposed of).

McGuirl vs. Sanitary District of Chicago, in Circuit Court of Cook County.

Ames vs. Sanitary District of Chicago et al. (now disposed of).

Calumet Terminal Railway Company vs. Sanitary District of Chicago et al., in Circuit Court of Cook County.

Silverman vs. Sanitary District of Chicago, in Circuit Court of Cook County.

Hagaman vs. Angus & Gindele and Sanitary District of Chicago, in Circuit Court of Cook County (now disposed of).

Baxter vs. Smith, Sanitary District of Chicago et al., in Superior Court of Cook County.

American Forcite Powder Company vs. Sanitary District of Chicago et al., in Circuit Court of United States.

Chicago, Wilmington and Vermillion Coal Company vs. Angus & Gindele and Sanitary District of Chicago et al., in Circuit Court of Cook County.

McQuirk vs. Sanitary District of Chicago, before Justice of the Peace (now disposed of).

Sanitary District of Chicago vs. Allen, in the Circuit Court of Will County.

McCaughey vs. Sanitary District of Chicago, in Superior Court of Cook County.

Burke vs. Sanitary District of Chicago, in Circuit Court of Cook County.

Hero vs. Sanitary District of Chicago, in Circuit Court of Cook County.

All of these are pending except the six noted as disposed of.

Appellate Court.

In the Appellate Court a decision has been rendered in the appeal of Cook vs. The Sanitary District of Chicago, from which appeal has been prayed and allowed to the Supreme Court of Illinois.

Supreme Court.

During the year an opinion was handed down in the case of Johnson et al. vs. The Sanitary District of Chicago, approving the decision of the courts below that a court of equity will not review the discretionary powers exercised by the Board of Trustees, exercised in good faith.

Also an opinion in the Loughran case, taken up from the Circuit Court of Will County on appeal from its decision, under which the District has since acquired the tract of land condemned in that proceeding.

The appeal in the trespass suit of Allen vs. Haley et al. is now pending in the Supreme Court, which involves, after a preliminary matter of jurisdiction, the question whether or not the District takes the fee of the land it condemns.

The case of The Sanitary District of Chicago vs. Cook will be filed in the Supreme Court on the completion of a transcript of the record of proceedings in the Appellate Court.

Cases Disposed of.

The following suits have been terminated during the year:

Allen vs. Sanitary District of Chicago et al., in Circuit Court of Will County, as to the District.

McDonnell vs. Sanitary District of Chicago, in Circuit Court of Cook County (two suits).

McQuirk vs. Sanitary District of Chicago, before a Justice of the Peace of Cook County.

Ames et al. vs. Sanitary District of Chicago, in Circuit Court of Cook County.

Sanitary District of Chicago vs. Loughran, in Supreme Court.

Sanitary District of Chicago vs. Loughran, in Circuit Court of Will County.

Johnson & Bradley vs. Sanitary District of Chicago, in Supreme Court.

Sanitary District of Chicago vs. Fischer, in Circuit Court of Cook County.

Hagaman vs. Angus & Gindele and Sanitary District of Chicago, in Circuit Court of Cook County.

Pending Suits.

The following suits are pending:

Payette vs. Sanitary District of Chicago, in Superior Court of Cook County, No. 143,959.

Cahill vs. Guilford and Sanitary District of Chicago, in Circuit Court of Cook County, in chancery, No. 126,471

Harlev vs. Sanitary District of Chicago, in Circuit Court of Cook County, in chancery, No. 129,058.

Harlev vs. Sanitary District of Chicago, in Circuit Court ot Cook County, law, in Superior Court of Cook County, 159,797.

George F. Blake Manufacturing Company vs. Sanitary District of Chicago, law, in Superior Court of Cook County. 159,960.

Sanitary District of Chicago vs. Jacob Adler and City of Joliet, law, in Circuit Court of Will County, No. 14,952.

Coyne vs. Ryan and Sanitary District of Chicago, in Circuit Court of Cook County, burnt record, No. 958.

Sanitary District of Chicago vs. James Lonergan and City of Joliet, law, in Circuit Court of Will County, No. 14,953.

Sanitary District of Chicago vs. Silverman et al., chancery, in Superior Court of Cook County, No. 164,039.

Ricker et al. vs. Sanitary District of Chicago, chancery, in Circuit Court of United States, Northern District of Illinois, No. 23,704.

Baxter vs. Smith and Sanitary District of Chicago, law, in Circuit Court of United States, No. 23,709.

Allen vs. Haley et al., law, in Supreme Court of Illinois, No. 15,371.

Smith & Eastman vs. Sanitary District of Chicago, law, in Circuit Court of Cook County, No. 143,680.

Sanitary District of Chicago vs. Martin, County Treasurer of Will County, chancery, in Circuit Court of Will County, No. 15,564.

Sanitary District of Chicago vs. Glos et al., chancery, in Circuit Court of Will County, No. 15,754.

Guilford vs. Agnew, Sanitary District of Chicago et al., chancery, in Circuit Court of Cook County, No. 149,138.

Strobel vs. Sanitary District of Chicago, law, in the Superior Court of Cook County. No. 173,730.

Bates Machine Company vs. Sanitary District of Chicago et al., chancery, in the Circuit Court of Will County, No. 2,182.

Incorporation of Village of Carrollville, petition, County Court of Cook County, No. 14,708.

Sanitary District of Chicago vs. County Treasurer of Will County, chancery, Circuit Court of Will County.

Western Wheeled Scraper Company vs. Harlev and Sanitary District of Chicago et al, chancery, Circuit Court of Cook County, No. 156,517.

McCullough vs. Sanitary District of Chicago, law, in Circuit Court of Cook County, No. 156,775.

Gates Iron Works vs. Sanitary District of Chicago et al., chancery, in Circuit Court of Cook County, No. 157,289.

McGuirl vs. Sanitary District of Chicago, law, in Circuit Court of Cook County, No. 161,695.

Calumet Terminal Railway Company vs. Sanitary District of Chicago et al., condemnation, in Circuit Court of Cook County, No. 157,816.

Silverman vs. Sanitary District of Chicago, law, in Circuit Court of Cook County, No. 162,789.

Baxter vs. Smith, Sanitary District of

Chicago et al., law, in Superior Court of Cook County, No. 178,133.

American Forcite Powder Manufacturing Company vs. Sanitary District of Chicago et al., chancery, in Circuit Court of United States, No. 24,284.

Chicago, Wilmington and Vermillion Coal Company vs. Angus & Gindele and Sanitary District of Chicago et al., chancery, in Circuit Court of Cook County, No. 163,936.

Sanitary District of Chicago vs. Allen, in the Circuit Court of Will County.

Sanitary District of Chicago vs. Western Stone Company et al., condemnation, in Circuit Court of Will County, No. 16,016.

McCaughey vs. Sanitary District of Chicago, law, in Superior Court of Cook County, No. 179,197.

Burke vs. Sanitary District of Chicago, law, in Circuit of Cook County, No. 165,615.

Cook vs. Sanitary District of Chicago, law, in Appellate Court of Illinois, No. 6,602.

Hero vs. Sanitary District of Chicago, law, in Circuit Court of Cook County, No. 165,616.

And one other suit of which the District has not received legal notice.

Contracts.

The several contracts executed during the year, in the preparation of which the Department has participated, are:

Contract with Christie & Lowe for Regulating Works at Lockport.

Contract with Campbell & Dennis for retaining walls on Section 14.

Contract with banks for the purchase of the fifth issue of bonds.

Contract with Pittsburg Testing Laboratory for inspecting the iron at mills and in shop for Controlling Works.

Contract with Benezette Williams for the substructure of Southwest Boulevard Bridge.

Contract with Benezette Williams for substructure of Elgin, Joliet and Eastern Railway Bridge.

Contract with Milwaukee Bridge and Iron Works for superstructure of Southwest Boulevard Bridge.

Contract with Milwaukee Bridge and Iron Works for superstructure of Elgin, Joliet and Eastern Railway Bridge.

Contract with Daniel Sullivan for repair and improvement of Romeo Highway.

Contract with American Telephone and Telegraph Company for right of way on Summit Road.

Contract with the railway companies of the Santa Fe System for settlement of right of way.

Contract with McRitchie & Nicol for pumping plant on Section 14.

A number of minor contracts, such as extension of time for completion of contracts, have been drawn and executed.

Drafts of contracts for proposed settlement of right of way question with the C., M. & N. Railroad Company and with Calumet Terminal Railway Company have been prepared.

Current Contract Questions.

Under the contracts executed prior to 1896, a number of important questions have arisen and been considered.

Final Settlements.

The several rights and liabilities of the District, in making the final settlement, have been fully considered in connection with Sections 3, 6, 7, 9, 10, 11, 12, 13 and 14, H, I, K, L and M.

Labor.

Some of the sections have required considerable attention in the way of protecting the labor directly employed. Every complaint from any laborer has been fully investigated, and I am glad to say that in nearly all cases the contractor has been ready and willing to assist in adjusting the complaint.

In the case of Section F, where the contractors quit work, the Attorney and

Engineer, under the orders of the Board, paid out over $12,000 to the laborers on this section, who had been left unpaid by the contractors.

Many questions for extras claimed by contractors have been before the Department and passed upon.

Claims.

Various material men have at times urged their claims to be protected by the District, and in the case of the Heidenreich creditors on Sections L and M, a great deal of time was consumed.

Many claimants have endeavored to come in under the Mechanics' Lien Law of 1895, and are constantly filing claims. This practice bids fair to make a large amount of litigation for the District in the future.

Other Claims.

The claims for flooding, made by Charles Goerner and James Ray, remain unadjusted, and both parties have signified their intention to bring suit.

The claim of Thomas Collins, tenant on the Prescott lands, was amicably disposed of.

Ordinances.

Ordinances providing for official record of gauge readings, for the annual tax levy, annual appropriations and the fifth bond issue, have been prepared during the year.

Opinions.

A number of opinions have been rendered, sometimes singly and sometimes in conjunction with the Chief Engineer or the General Counsel. The subjects considered were as follows:

Payment of labor and alleged material men on Sections L and M.

Cancellation of bond of Halvorson, Richards & Co., on release of sureties on bonds generally, and allowing reserve to stand as security.

Extras on retaining walls on Sections 1 and 15.

On the right of the District to draw tax warrants against the levy of 1896.

On duty of contractor after completion of work of excavation.

On claim of William A. Schonfield.

On claim of Michael Guilford.

On claim of James Doran.

On claim of Dr. Nicholas Bartz.

On claim of Belt Railway Company of Chicago for damages.

On right of District to make final payments to contractors.

On right to pay laborers on Section F, under the provisions entitled "Failure to Pay Laborers," of the contract.

On publication of ordinances.

On duty to repair Romeo Highway.

Also briefs to a considerable number.

Right of Way.

The questions arising under this heading in connection with railway crossings, widening, straightening and deepening the Chicago River, and through Joliet, viewed in the light of the Sanitary District Act, have been given considerable study. Their importance cannot be overestimated. The difficulties liable to be encountered can be readily overcome by proper amendments to the present law, which should be secured at the present session of the Legislature, if possible.

The following is a complete statement of lands acquired for the corporate purposes of the District, and of moneys expended for land account, during the year just closed.

Purchase—Cook County :	
Sixteen lots in Manchester Subdivision	$ 4,000 00
One lot in Singer & Talcott's Subdivision	1,000 00
Will County—Loughran Land —Condemnation :	
133.37 acres	30,337 00
Abstracts and miscellaneous	255 90
Total	$35,592 90

Below is a complete statement of all the lands acquired by the District for its

corporate purposes in Cook, DuPage and Will Counties, together with the acreage and actual cost of same, for the years 1892, 1893, 1894, 1895 and 1896. This does not include the lands of the Western Stone Company, containing 132.39 acres, a verdict in which case was rendered December 19, 1896, for $14,500.00. A motion for a new trial was overruled January 4, 1897.

Counties.	*Purchase.*		*Condemnation.*	
	Acreage.	Price.	Acreage.	Price.
1892.				
Cook, East of Willow Springs	410.41	$ 133 610.33	3.15	$ 1,850.00
Cook, West of Willow Springs	902.84	188,581.67	345.75	53,440 60
Du Page	30.74	4,772.50	128.07	4,477.80
Will	754.38	93,679.00	656.16	41,576.85
1893.				
Cook, East of Willow Springs	1367.27	1,098 659.23	640.56	141,800.09
Cook, West of Willow Springs	41.88	4,090.00	97.75	9,768.00
Manchester Subdivision	*	13,975.00		
Du Page	170.91	13,692.50		
Will	86.55	8,620.00	1.07	750.00
1894.				
Cook, East of Willow Springs	121 82	353,380.84	17.38	29 896.32
Manchester Subdivision	*	30,300 00	*	9,750.00
Du Page	23.57	7,000.00		
Will	321.33	38,416.23	88.22	10,519.00
1895.				
Cook, East of Willow Springs	3.36	20,654.00		
Du Page			170.17	49,196.56
Will	81.11	9,913 00	125.09	38 101.00
1896.				
Manchester Subdivision	*	4.000.00		
Lemont, Singer and Talcot	†	1 000.00		
Will			133 37	30,337.00
Totals	4316.17	$2,024,344 30	2406 74	$421,463 22

*The District acquired 104 lots during the years 1893, 1894 and 1896, in Manchester, a Subdivision in Section 36, 39, 13, as follows: 1893, by purchase, 22 lots; 1894, by purchase, 49 lots; by condemnation, 17 lots; 1896, by purchase, 16 lots, making a total of 104 lots in Manchester.

†The District acquired, by purchase, one lot in Singer & Talcott's Stone Company Subdivision in Section 20, 37, 11, in 1896.

Below is a summarized statement of the expenses of the Law Department for the year 1896:

Salaries.

Attorneys	$ 15,693 63	
Office Force	3,395 00	
		$ 19,088 63

General Expenses.

Court Costs	$ 7,431 67	
Right of Way	2 983 05	
Expense Account	2 115 35	
Legal Services	5,916 66	
Printing and Stationery	199 63	
Sundries	5 16	
		$ 18 651 52
		$ 37,740 15

Land Account.

Will County	$ 30,337 00	
Cook County	5,000 00	
Boundary Fences	79 90	
Abstract Account	51 00	
Overflow (Collins land)	125 00	
		$ 35,592 90
Total Departmental Expenses for 1896		$ 73,333 05

For the coming year, the care of the litigation of the District, the acquiring right of way through Joliet, and in the Chicago River, and at the crossings of the C. & W. I. Railroad Company, C., M. & N. Railroad Company, and Calumet Terminal Railway Company, the preparation of contracts, opinions, consideration of claims, and general routine work will occupy the time of the Department.

In connection with the prospective work for the year 1897, I desire to say that the work of the Department involved in the improvement of the Chi cago River and the acquiring of the right of way through Joliet, and the litigation which seems likely to occur in defining the powers of the District and in settling the various claims, the heavier routine work consequent upon a greater amount of work referred by the Board of Trustees will require some changes and additions in the Law Department.

For the greater part of 1896 the Department has worked with one assistant less than it ever did before, although the actual work done was fully as great, if not greater in volume, than some preceding years. I am fully convinced that at least one additional assistant is and will be necessary, and I recommend that the matter of further assistance and a proper arrangement of assistants and salaries be taken up by the proper Committee at once and considered and passed upon.

Respectfully submitted,

(Signed) W. M. McEwen,

Attorney."

ANNUAL REPORT OF POLICE DEPARTMENT FOR 1896.

"CHICAGO, January 1, 1897.

To the Honorable, the Board of Trustees of the Sanitary District of Chicago:

GENTLEMEN—I have the honor to submit my annual report for the year ending December 31, 1896.

The year 1896 has passed without any perceptible change from the preceding year. We stopped four strikes during the summer, which might have caused considerable trouble had we not taken decisive measures against the leaders, which had the desired effect. We caused the arrest, and furnished the necessary evidence to have indicted and convicted in the Criminal Court of Cook County, of twenty-two (22) saloon keepers for selling liquors without a license. They were fined all the way for $40.00 to $180.00, together with the costs, $27.50. Judge Tuttle tried the cases, and he gave those law-breakers to understand that for the next offense he would send them to jail. The lecture had a good effect, as there are fewer saloons this year along the line of the Canal than there has been since the commencement of the work. Of the indicted saloon keepers, two of them are School Trustees, two are Highway Commissioners and one the Mayor of a village and one a Trustee of the same village.

On Sections 14 and 15, in Will County, we broke up all the bottling houses, or "blind pigs," in the District. We practically prosecuted them out of existence. The Justices of the Peace along the line of the Canal are too lenient with the law-breakers, as any crime committed, except murder, they are inclined to change to disorderly conduct, for the purpose of getting a fine and the costs out of the prisoners, because if they held them to the Grand Jury, the Justices would get nothing, and they will not send our prisoners to the Bridewell, as it causes additional expense to their respective townships. The Bridewell authorities must be paid thirty cents per diem for each prisoner sent to that institution.

Of the eight sections completed this year, a great many negroes, hobos and other unemployed men are left stranded, few of whom have any money to carry them over the winter. They remain in the shacks or in caves built in the ravines adjacent to the completed sections of the Canal. It will require close watch to prevent the wholesale stealing of anything saleable along the right of way of the Canal this winter; and also to protect the honest laborers, the respectable citizens, and the contractors upon the works, against the assaults and encroachments of this army of unemployed men made desperate by want. It will be a hard task to accomplish much with twenty-seven men constituting our police force, but with our experience and efficiency for handling such characters, and the faithful discharge of duty by the members of the police force, will make it possible to hold them in check. There were five (5) murders committed along the Canal during the year, and all the

perpetrators were arrested by Sanitary Police, with but one exception.

There was an outrageous attempt to hold up or wreck a Chicago and Alton passenger train between Willow Springs and Sag Bridge at 10 o'clock P. M., in August last, by placing railroad ties perpendicularly and horizontally over a culvert. The train was delayed forty minutes to chop the ties out from the pilot and trucks of the engine. We arrested six negroes on suspicion, and turned them over to the railroad authorities. There were five attempts at arson and incendiarism. One, which was successful, we referred to the Insurance Company.

We also sent a detail of police officers, during the summer months, on the Saturday and Sunday excursion trains of the Santa Fe and Chicago and Alton Railroad, along the Canal, and I am happy to state that of the thousands of visitors who have inspected the works, not one has been injured or molested.

We also protect the rolling stock of the Alton and Santa Fe Railroads, so far as they parallel the Canal, as far as it is consistent with our regular police duty.

Our relations with the authorities of the towns along the Canal are harmonious, and our police force work in conjunction with them at all times.

According to instructions from the President and Committee on Health and Public Order, I inspected all the camps along the Canal in relation to their Sanitary condition. I found in two sections, where they worked day and night shifts, they had but one set of beds, and the day men would have to sleep in the same beds that the night men had only just left. I immediately informed the contractors that the Trustees would not tolerate any such unsanitary methods, and they promptly changed the obnoxious system. All our policemen act as sanitary inspectors. I am pleased to state that the camps are in better sanitary condition than ever before and are less congested. During the year, we had forty policemen, none of whom died, but a large percentage of them were sick with malaria fever during the summer.

In December we abandoned the police stations at Lemont and Romeo and discontinued the police service thereat, causing the discharge of thirteen policemen and reducing the force to twenty-seven men.

The advent of spring we anticipate the building of ten bridges over the Canal between Chicago and Joliet, which will cause the employment of a large number of skilled and organized laborers, which are difficult to handle as they strike for smaller causes than the ordinary Canal interests.

Following is a summary of the work done by the Department during the year:

Total number of arrests	742
Total fines imposed	$5,424 00
Committed to County Jail	24
Held to Criminal Court	39
Committed to Bridewell	5
Sent to County Hospital	13
Sent to hospitals other than county	45
Dead cared for	55
Sick and injured cared for	31
Insane cared for	8

(The dead and injured includes those killed or injured by railroad trains, drowned, and from natural causes.)

The arrests were for offenses, classified as follows:

Accessory to murder	11
Adultery	2
Assault	25
Assault with deadly weapon	19
Assault with attempt to commit rape	1
Assault with intent to rob	13
Assault with intent to kill	21
Assaulting an officer	7
Assault and battery	25
Attempted arson	5
Attempted train wreck	6
Burglary	6
Carrying concealed weapons	14
Criminal carelessness	3
Disorderly	273
Disorderly on railroad trains	5
Exposing person	4
Fugitives from justice	7
Horse stealing	2
House breaking	2
Incendiary	1
Inmates of house of ill-fame	13

Interfering with an officer in discharge of his duty	5
Intimidation	3
Keeping disorderly house	4
Killing song birds	4
Larceny	62
Larceny as bailee	1
Murder	11
Mayhem	1
Malicious mischief	4
Receiving stolen property	5
Resisting an officer	6
Robbery	17
Selling liquor without license	16
Selling liquor on Sunday	1
Shooting inside corporate limits	14
Swindling	5
Threats	2
Trespassing	2
Vagrancy	36
All other offenses	78

Most respectfully submitted,

(Signed) EDWARD J. COEN,

Marshal."

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